TABLE 3.7
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
FOREST STREET INCINERATOR

Scenario Timeframe:	Future
Medium:	Surface Soil
Exposure Medium:	Surface Soil
Exposure Point:	Area North of McCoy's Creek

Chemical of Potential Concern	Units	Arithmetic Mean (1)	95% UCL of Normal Data (2)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency (3)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Arsenic	mg/kg	1.84	NC	3.2	J	mg/kg	3.2	Max	Max			

For non-detects, 1/2 sample quantitation limit was used as a proxy concentration, for duplicate sample results, the average value was used in the calculation.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

1 This column contains the arithmetic average of detected and non-detected concentrations.

2 Per EPA Region IV guidance (EPA, 1996a), the groundwater exposure point concentration should be the arithmetic average of the wells in the highly concentrated area of the plume. Therefore, the 95% UCL is not calculated for this medium.

3 Per EPA Region IV guidance (EPA, 1996a).

4 Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

TABLE 3.7a
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
FOREST STREET INCINERATOR

Scenario Timeframe:	Future
Medium:	Surface Soil
Exposure Medium:	Surface Soil
Exposure Point:	Area North of McCoy's Creek

Chemical of Potential Concern	Units	Arithmetic Mean (1)	95% UCL of Normal Data (2)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency (3)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Arsenic	mg/kg	1.84	NC	3.2	J	mg/kg	3.2	Max	Max			
Barium	mg/kg	32.6	NC	140	J	mg/kg	140	Max	Max			
Cyanide	mg/kg	1.39	NC	2.2		mg/kg	2.2	Max	Max			
Iron	mg/kg	3645	NC	5,800	J	mg/kg	5,800	Max	Max			
Manganese	mg/kg	68.7	NC	190	J	mg/kg	190	Max	Max			

For non-detects, 1/2 sample quantitation limit was used as a proxy concentration, for duplicate sample results, the average value was used in the calculation.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

1 This column contains the arithmetic average of detected and non-detected concentrations.

2 Per EPA Region IV guidance (EPA, 1996a), the groundwater exposure point concentration should be the arithmetic average of the wells in the highly concentrated area of the plume. Therefore, the 95% UCL is not calculated for this medium.

3 Per EPA Region IV guidance (EPA, 1996a).

4 Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

TABLE 3.8
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
FOREST STREET INCINERATOR

Scenario Timeframe:	Future
Medium:	Subsurface Soil
Exposure Medium:	Subsurface Soil
Exposure Point:	Area North of McCoy's Creek

Chemical of Potential Concern	Units	Arithmetic Mean (1)	95% UCL of Log Normal Data (2)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency (3)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Arsenic	mg/kg	2.15	NC	3.1		mg/kg	3.1	Max	Max			

Statistics: Maximum Detected Value (Max); 95% UCL of Log-transformed Data (95% UCL-T)

NC - Not Calculated. The 95% UCL was not calculated because the data set contained less than 10 samples; therefore, the maximum detected concentration will be used as the EPC.

(1) Per EPA Region IV guidance (EPA, 1996a), this column contains the arithmetic average of detected concentrations only.

(2) Per EPA Region IV guidance (EPA, 1996a), it was assumed that the sampling data are log normally distributed.

(3) Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

TABLE 3.8a
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
FOREST STREET INCINERATOR

Scenario Timeframe:	Future
Medium:	Subsurface Soil
Exposure Medium:	Subsurface Soil
Exposure Point:	Area North of McCoy's Creek

Chemical of Potential Concern	Units	Arithmetic Mean (1)	95% UCL of Log Normal Data (2)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency (3)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Arsenic	mg/kg	2.15	NC	3.1		mg/kg	3.1	Max	Max			
Barium	mg/kg	87.5	NC	160		mg/kg	160	Max	Max			
Iron	mg/kg	4,850	NC	5,900		mg/kg	5,900	Max	Max			

Statistics: Maximum Detected Value (Max); 95% UCL of Log-transformed Data (95% UCL-T)

NC - Not Calculated. The 95% UCL was not calculated because the data set contained less than 10 samples; therefore, the maximum detected concentration will be used as the EPC.

(1) Per EPA Region IV guidance (EPA, 1996a), this column contains the arithmetic average of detected concentrations only.

(2) Per EPA Region IV guidance (EPA, 1996a), it was assumed that the sampling data are log normally distributed.

(3) Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

TABLE 3.9
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
FOREST STREET INCINERATOR

Scenario Timeframe:	Current/Future
Medium:	Surface Water
Exposure Medium:	Surface Water
Exposure Point:	McCoy's Creek

Chemical of Potential Concern	Units	Arithmetic Mean(2)	95% UCL of Log Normal Data(3)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency(4)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	ug/L	1.32	NC	2	J	mg/L	0.0002	Max	Max			
Benzo(a)pyrene	ug/L	2.2	NC	2.2	J	mg/L	0.0022	Max	Max			
Benzo(b)fluoranthene	ug/L	2.2	NC	2.2	J	mg/L	0.00022	Max	Max			
Benzo(k)fluoranthene	ug/L	1.7	NC	1.7	J	mg/L	0.000017	Max	Max			
bis(2-ethylhexyl)phthalate	ug/L	6.1	NC	10	J	mg/L	0.01	Max	Max			
Chrysene	ug/L	1.37	NC	2.2	J	mg/L	0.0000022	Max	Max			
Dibenz(a,h)anthracene	ug/L	1.1	NC	1.1	J	mg/L	0.0011	Max	Max			
Indeno(1,2,3-cd)pyrene	ug/L	1.38	NC	2.1	J	mg/L	0.00021	Max	Max			
CPAH TEF (1)	ug/L	N/A	NC	N/A	J	mg/L	0.0039	N/A	N/A			
bis(2-ethylhexyl)phthalate	ug/L	6.1	NC	10	J	mg/L	0.01	Max	Max			
Barium	mg/L	0.049	NC	0.064	J	mg/L	0.064	Max	Max			
Manganese	mg/L	0.062	NC	0.0795		mg/L	0.0795	Max	Max			
Iron	mg/L	0.04	NC	0.42		mg/L	0.42	Max	Max			

Statistics: Maximum Detected Value (Max); 95% UCL of Log-transformed Data (95% UCL-T)

NC - Not Calculated. The 95% UCL was not calculated because the data set contained less than 10 samples; therefore, the maximum detected concentration will be used as the EPC.

(1) As an interim procedure, Region IV has adopted a toxicity equivalency factor (TEF) methodology for carcinogenic PAHs based on each compound's relative potency to the potency of benzo(a)pyrene (BAP). The following TEFs were used to convert the concentration of each PAH compound to an equivalent concentration of BAP: Benzo(a)anthracene (0.1), Benzo(a)pyrene (1), Benzo(b)fluoranthene (0.1), Benzo(k)fluoranthene (0.01), Chrysene (0.001), Dibenz(a,h)anthracene (1), and Indeno(1,2,3-cd)pyrene (0.1).

(2) Per EPA Region IV guidance (EPA, 1996a), this column contains the arithmetic average of detected concentrations only.

(3) Per EPA Region IV guidance (EPA, 1996a), it was assumed that the sampling data are log normally distributed.

(4) Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

TABLE 3.10
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
FOREST STREET INCINERATOR

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater
Exposure Point:	Surficial Aquifer

Chemical of Potential Concern	Units	Arithmetic Mean(2)	95% UCL of Log Normal Data(3)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency(4)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Barium	mg/L	0.33	NC	0.35		mg/L	0.33	Arithmetic Mean	Arithmetic Mean			
Cyanide	mg/L	0.0073	NC	0.0073		mg/L	0.0073	Arithmetic Mean	Arithmetic Mean			
Iron	mg/L	16	NC	24		mg/L	16	Arithmetic Mean	Arithmetic Mean			
Manganese	mg/L	0.53	NC	0.75		mg/L	0.53	Arithmetic Mean	Arithmetic Mean			

The plume consist of groundwater samples FSMW005, FSMW008, and FSMW014.

Statistics: Maximum Detected Value (Max); 95% UCL of Log-transformed Data (95% UCL-T)

NC - Not Calculated. The 95% UCL was not calculated because the data set contained less than 10 samples; therefore, the maximum detected concentration will be used as the EPC.

(1) As an interim procedure, Region IV has adopted a toxicity equivalency factor (TEF) methodology for carcinogenic PAHs based on each compound's relative potency to the potency of benzo(a)pyrene (BAP). The following TEFs were used to convert the concentration of each PAH compound to an equivalent concentration of BAP: Benzo(a)anthracene (0.1), Benzo(a)pyrene (1), Benzo(b)fluoranthene (0.1), Benzo(k)fluoranthene (0.01), Chrysene (0.001), Dibenz(a,h)anthracene (1), and Indeno(1,2,3-cd)pyrene (0.1).

(2) Per EPA Region IV guidance (EPA, 1996a), this column contains the arithmetic average of detected concentrations only

(3) Per EPA Region IV guidance (EPA, 1996a), it was assumed that the sampling data are log normally distributed.

(4) Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

TAB .1
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
5TH & CLEVELAND

Scenario Timeframe:	Current/Future
Medium:	Surface Soil
Exposure Medium:	Surface Soil
Exposure Point:	Emmett Reed Community Center

Chemical of Potential Concern	Units	Arithmetic Mean(2)	95% UCL of Log Normal Data(3)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency(4)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	ug/kg	240	NC	240	J	mg/kg	0.024	Max	Max			
Benzo(a)pyrene	ug/kg	260	NC	260	J	mg/kg	0.26	Max	Max			
Benzo(b and/or k) fluoranthene*	ug/kg	240	NC	260	J	mg/kg	0.026	Max	Max			
Chrysene	ug/kg	250	NC	250	J	mg/kg	0.00025	Max	Max			
Indeno(1,2,3-cd)pyrene	ug/kg	130	NC	130		mg/kg	0.013	Max	Max			
CPAH TEF(1)	ug/kg	N/A	N/A	N/A		mg/kg	0.323	N/A	N/A			
2,3,7,8-TCDD (TEQ)	ug/kg	13	NC	45	J	mg/kg	0.000045	Max	Max			
Antimony	mg/kg	1.9	1.8	3.2	J	mg/kg	1.8	95% UCL-T	95% UCL-T			
Arsenic	mg/kg	3.7	3.0	4.2		mg/kg	3.0	95% UCL-T	95% UCL-T			
Barium	mg/kg	59.6	170	370	J	mg/kg	170	95% UCL-T	95% UCL-T			
Copper	mg/kg	25	71	110	J	mg/kg	71	95% UCL-T	95% UCL-T			
Iron	mg/kg	4,191	6,956	14,000		mg/kg	6,956	95% UCL-T	95% UCL-T			
Lead	mg/kg	179	NC	950		mg/kg	179	Arith. Mean	Arith. Mean			

Statistics: Maximum Detected Value (Max); 95% UCL of Log-transformed Data (95% UCL-T)

NC - Not Calculated. The 95% UCL was not calculated because the data set contained less than 10 samples; therefore, the maximum detected concentration will be used as the EPC.

(1) As an interim procedure, Region IV has adopted a toxicity equivalency factor (TEF) methodology for carcinogenic PAHs based on each compound's relative potency to the potency of benzo(a)pyrene (BAP). The following TEFs were used to convert the concentration of each PAH compound to an equivalent concentration of BAP: Benzo(a)anthracene (0.1), Benzo(a)pyrene (1), Benzo(b)fluoranthene (0.1), Benzo(k)fluoranthene (0.01), Chrysene (0.001), Dibenz(a,h)anthracene (1), and Indeno(1,2,3-cd)pyrene (0.1).

(2) Per EPA Region IV guidance (EPA, 1996a), this column contains the arithmetic average of detected concentrations only.

(3) Per EPA Region IV guidance (EPA, 1996a), it was assumed that the sampling data are log normally distributed.

(4) Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

*The laboratory reported the compound as benzo(b and/or k)fluoranthene; therefore, the highest TEF was used (i.e., benzo(b)fluoranthene).

TABLE 3.2
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
5TH & CLEVELAND

Scenario Timeframe:	Current/Future
Medium:	Subsurface Soil
Exposure Medium:	Subsurface Soil
Exposure Medium:	Emmett Reed Community Center

Chemical of Potential Concern	Units	Arithmetic Mean(1)	95% UCL of Log Normal Data(2)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency(3)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	ug/kg	470	NC	470		mg/kg	0.047	Max	Max			
Benzo(a)pyrene	ug/kg	460	NC	460		mg/kg	0.46	Max	Max			
Benzo(b and/or k)fluoranthene*	ug/kg	490	NC	530		mg/kg	0.053	Max	Max			
Chrysene	ug/kg	500	NC	500		mg/kg	0.0005	Max	Max			
Indeno(1,2,3-cd)pyrene	ug/kg	260	NC	260	J	mg/kg	0.026	Max	Max			
CPAH TEF(1)	ug/kg	N/A	N/A	N/A		mg/kg	0.587	N/A	N/A			
2,3,7,8-TCDD (TEQ)	ng/kg	27	NC	27		mg/kg	0.000027	Max	Max			
Antimony	mg/kg	17	NC	17	J	mg/kg	17	Max	Max			
Arsenic	mg/kg	10	NC	20	J	mg/kg	20	Max	Max			
Barium	mg/kg	559	NC	1,100	J	mg/kg	1,100	Max	Max			
Cadmium	mg/kg	4	NC	4		mg/kg	4	Max	Max			
Chromium	mg/kg	20	NC	38		mg/kg	38	Max	Max			
Copper	mg/kg	339	NC	670		mg/kg	670	Max	Max			
Iron	mg/kg	30,400	NC	59,000		mg/kg	59,000	Max	Max			
Lead	mg/kg	235	NC	3,200		mg/kg	235	Arith. Mean	Arith. Mean			
Manganese	mg/kg	415	NC	820		mg/kg	820	Max	Max			

Statistics: Maximum Detected Value (Max); 95% UCL of Log-transformed Data (95% UCL-T)

NC - Not Calculated. The 95% UCL was not calculated because the data set contained less than 10 samples; therefore, the maximum detected concentration will be used as the EPC.

(1) As an interim procedure, Region IV has adopted a toxicity equivalency factor (TEF) methodology for carcinogenic PAHs based on each compound's relative potency to the potency of benzo(a)pyrene (BAP). The following TEFs were used to convert the concentration of each PAH compound to an equivalent concentration of BAP: Benzo(a)anthracene (0.1), Benzo(a)pyrene (1), Benzo(b)fluoranthene (0.1), Benzo(k)fluoranthene (0.01), Chrysene (0.001), Dibenz(a,h)anthracene (1), and Indeno(1,2,3-cd)pyrene (0.1).

(2) Per EPA Region IV guidance (EPA, 1996a), this column contains the arithmetic average of detected concentrations only.

(3) Per EPA Region IV guidance (EPA, 1996a), it was assumed that the sampling data are log normally distributed.

(4) Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

*The laboratory reported the compound as benzo(b and/or k)fluoranthene; therefore, the highest TEF was used (i.e., benzo(b)fluoranthene).

TABLE 3.3
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
5TH & CLEVELAND

Scenario Timeframe:	Future
Medium:	Surface Soil
Exposure Medium:	Surface Soil
Exposure Point:	The Park - Emmett Reed

Chemical of Potential Concern	Units	Arithmetic Mean(2)	95% UCL of Log Normal Data(3)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency(4)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	ug/kg	864	NC	3,200		mg/kg	0.32	Max	Max			
Benzo(a)pyrene	ug/kg	668	NC	3,000		mg/kg	3.00	Max	Max			
Benzo(b and/or k)fluoranthene*	ug/kg	733	NC	1,700		mg/kg	0.17	Max	Max			
Benzo(b)fluoranthene	ug/kg	1,515	NC	4,100		mg/kg	0.41	Max	Max			
Benzo(k)fluoranthene	ug/kg	777	NC	1,900		mg/kg	0.019	Max	Max			
Chrysene	ug/kg	887	NC	3,200		mg/kg	0.0032	Max	Max			
Dibenz(a,h)anthracene	ug/kg	243	NC	570		mg/kg	0.57	Max	Max			
Indeno(1,2,3-cd)pyrene	ug/kg	464	NC	1,200		mg/kg	0.12	Max	Max			
CPAH TEF(1)	ug/kg	N/A	N/A	N/A		mg/kg	4.612	N/A	N/A			
PCB-1260 (Aroclor 1260)	ug/kg	379	NC	720		mg/kg	0.720	Max	Max			
2,3,7,8-TCDD (TEQ)	ng/kg	13.3	30	41		mg/kg	0.000030	95% UCL-T	95% UCL-T			
Antimony	mg/kg	232.5	NC	910		mg/kg	910	Max	Max			
Arsenic	mg/kg	9	NC	20		mg/kg	20	Max	Max			
Barium	mg/kg	152	NC	550	J	mg/kg	550	Max	Max			
Cadmium	mg/kg	1	NC	4.9		mg/kg	4.9	Max	Max			
Chromium (Total)	mg/kg	13	NC	28		mg/kg	28	Max	Max			
Copper	mg/kg	124	NC	440	J	mg/kg	440	Max	Max			
Iron	mg/kg	13,175	NC	32,500		mg/kg	32,500	Max	Max			
Lead	mg/kg	1,372	NC	6,000		mg/kg	1,372	Arith. Mean	Arith. Mean			
Manganese	mg/kg	130	NC	310		mg/kg	310	Max	Max			

For non-detects, 1/2 sample quantitation limit was used as a proxy concentration; for duplicate sample results, the average value was used in the calculation.

Statistics: Maximum Detected Value (Max); 95% UCL of Log-transformed Data (95% UCL-T)

NC - Not Calculated. The 95% UCL was not calculated because the data set contained less than 10 samples; therefore, the maximum detected concentration will be used as the EPC.

N/A - Not Applicable

(1) As an interim procedure, Region IV has adopted a toxicity equivalency factor (TEF) methodology for carcinogenic PAHs based on each compound's relative potency to the potency of benzo(a)pyrene (BAP). The following TEFs were used to convert the concentration of each PAH compound to an equivalent concentration of BAP: Benzo(a)anthracene (0.1), Benzo(a)pyrene (1), Benzo(b)fluoranthene (0.1), Benzo(k)fluoranthene (0.01), Chrysene (0.001), Dibenz(a,h)anthracene (1), and Indeno(1,2,3-cd)pyrene (0.1).

(2) Per EPA Region IV guidance (EPA, 1995a), this column contains the arithmetic average of detected concentrations only.

(3) Per EPA Region IV guidance (EPA, 1996a), it was assumed that the sampling data are log normally distributed.

(4) Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

TABLE 3.4
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
5TH & CLEVELAND

Scenario Timeframe:	Current/Future
Medium:	Subsurface Soil
Exposure Medium:	Subsurface Soil
Exposure Point:	The Park - Emmett Reed

Chemical of Potential Concern	Units	Arithmetic Mean(1)	95% UCL of Log Normal Data(2)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency(3)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	ug/kg	610	NC	1,900		mg/kg	0.19	Max	Max			
Benzo(a)pyrene	ug/kg	678	NC	2,200		mg/kg	2.20	Max	Max			
Benzo(b and/or k)fluoranthene*	ug/kg	1021	NC	2,000	J	mg/kg	0.20	Max	Max			
Benzo(b)fluoranthene	ug/kg	337	NC	480		mg/kg	0.048	Max	Max			
Benzo(k)fluoranthene	ug/kg	343	NC	430		mg/kg	0.0043	Max	Max			
Chrysene	ug/kg	718	NC	2,400		mg/kg	0.0024	Max	Max			
Dibenz(a,h)anthracene	ug/kg	800	NC	800		mg/kg	0.80	Max	Max			
Indeno(1,2,3-cd)pyrene	ug/kg	590	NC	1,700		mg/kg	0.17	Max	Max			
CPAH TEF(1)	ug/kg	N/A	N/A	N/A		mg/kg	3.6147	N/A	N/A			
Aluminum	mg/kg	3,070	13,441	8,000		mg/L	8,000	Max	Max			
Antimony	mg/kg	8	28	12	J	mg/kg	12	Max	Max			
Arsenic	mg/kg	19	441	46		mg/kg	46	Max	Max			
Barium	mg/kg	238	8,862	740	J	mg/kg	740	Max	Max			
Cadmium	mg/kg	4	803	9		mg/kg	9	Max	Max			
Chromium (Total)	mg/kg	12	61	41		mg/kg	41	Max	Max			
Copper	mg/kg	330	27,122	1,000		mg/kg	1,000	Max	Max			
Iron	mg/kg	16,362	561,771	75,000		mg/kg	75,000	Max	Max			
Lead	mg/kg	909	NC	2,800		mg/kg	909	Arith. Mean	Arith. Mean			
Manganese	mg/kg	182	3,649	730		mg/kg	730	Max	Max			
Zinc	mg/kg	920	103,088	2,800	J	mg/kg	2,800	Max	Max			

Statistics: Maximum Detected Value (Max); 95% UCL of Log-transformed Data (95% UCL-T)

NC - Not Calculated. The 95% UCL was not calculated because the data set contained less than 10 samples; therefore, the maximum detected concentration will be used as the EPC.

(1) Per EPA Region IV guidance (EPA, 1996a), this column contains the arithmetic average of detected concentrations only.

(2) Per EPA Region IV guidance (EPA, 1996a), it was assumed that the sampling data are log normally distributed.

(3) Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

*The laboratory reported the compound as benzo(b and/or k)fluoranthene; therefore, the highest TEF was used (i.e., benzo(b)fluoranthene).

TABLE 3.5
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
5TH & CLEVELAND

Scenario Timeframe:	Future
Medium:	Surface Soil
Exposure Medium:	Surface Soil
Exposure Point:	Apartment Complex

Chemical of Potential Concern	Units	Arithmetic Mean(1)	95% UCL of Normal Data(2)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency(3)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	ug/kg	160	NC	160	J	mg/kg	0.016	Max	Max			
Benzo(a)pyrene	ug/kg	170	NC	170	J	mg/kg	0.17	Max	Max			
Benzo(b)fluoranthene	ug/kg	190	NC	190	J	mg/kg	0.019	Max	Max			
Benzo(k)fluoranthene	ug/kg	180	NC	180	J	mg/kg	0.0018	Max	Max			
Chrysene	ug/kg	200	NC	200	J	mg/kg	0.0002	Max	Max			
Dibenz(a,h)anthracene	ug/kg	69	NC	69	J	mg/kg	0.069	Max	Max			
Indeno(1,2,3-cd)pyrene	ug/kg	130	NC	130	J	mg/kg	0.013	Max	Max			
CPAH TEF(1)	ug/kg	N/A	N/A	N/A		mg/kg	0.2890	N/A	N/A			
2,3,7,8-TCDD (TEQ)	ng/kg	8	NC	8		mg/kg	0.000008	Max	Max			
PCB-1260 (Aroclor 1260)	ug/kg	290	NC	290	J	mg/kg	0.290	Max	Max			
Arsenic	mg/kg	1	NC	1.7	J	mg/kg	1.7	Max	Max			
Iron	mg/kg	3,617	NC	4,900		mg/kg	4,900	Max	Max			
Lead	mg/kg	135	NC	510	J	mg/kg	135	Arith. Mean	Arith. Mean			

For non-detects, 1/2 sample quantitation limit was used as a proxy concentration, for duplicate sample results, the average value was used in the calculation.

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

1 This column contains the arithmetic average of detected and non-detected concentrations.

2 Per EPA Region IV guidance (EPA, 1996a), the groundwater exposure point concentration should be the arithmetic average of the wells in the highly concentrated area of the plume. Therefore, the 95% UCL is not calculated for this medium.

3 Per EPA Region IV guidance (EPA, 1996a), the groundwater exposure point concentration is the arithmetic average of the wells in the highly concentrated area of the plume. The wells used in the calculation of the groundwater exposure point concentration included: BDMW001, BDMW005, BDMW009, BDMW010, and BDMW012.

4 Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

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MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
5TH & CLEVELAND

Scenario Timeframe:	*Current/Future*
Medium:	Subsurface Soil
Exposure Medium:	Subsurface Soil
Exposure Point:	Apartment Complex

Chemical of Potential Concern	Units	Arithmetic Mean(2)	95% UCL of Log Normal Data(3)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency(4)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	ug/kg	165	NC	190	J	mg/kg	0.019	Max	Max			
Benzo(a)pyrene	ug/kg	185	NC	250	J	mg/kg	0.25	Max	Max			
Benzo(b)fluoranthene	ug/kg	180	NC	220	J	mg/kg	0.022	Max	Max			
Benzo(k)fluoranthene	ug/kg	140	NC	180	J	mg/kg	0.0018	Max	Max			
Chrysene	ug/kg	165	NC	180	J	mg/kg	0.00018	Max	Max			
Indeno(1,2,3-cd)pyrene	ug/kg	120	NC	150	J	mg/kg	0.015	Max	Max			
CPAH TEF(1)	ug/kg	N/A	N/A	N/A		mg/kg	0.3080	N/A	N/A			
Antimony	mg/kg	3.7	NC	7.8	J	mg/kg	7.8	Max	Max			
Arsenic	mg/kg	5	NC	9.6		mg/kg	9.6	Max	Max			
Barium	mg/kg	185	NC	490		mg/kg	490	Max	Max			
Copper	mg/kg	144	NC	350		mg/kg	350	Max	Max			
Iron	mg/kg	6,847	NC	16,000		mg/kg	16,000	Max	Max			
Lead	mg/kg	290	NC	1,100	J	mg/kg	290	Arith. Mean	Arith. Mean			
Manganese	mg/kg	145	NC	290		mg/kg	290	Max	Max			

Statistics: Maximum Detected Value (Max); 95% UCL of Log-transformed Data (95% UCL-T)

NC - Not Calculated. The 95% UCL was not calculated because the data set contained less than 10 samples; therefore, the maximum detected concentration will be used as the EPC.

(1) As an interim procedure, Region IV has adopted a toxicity equivalency factor (TEF) methodology for carcinogenic PAHs based on each compound's relative potency to the potency of benzo(a)pyrene (BAP). The following TEFs were used to convert the concentration of each PAH compound to an equivalent concentration of BAP: Benzo(a)anthracene (0.1), Benzo(a)pyrene (1), Benzo(b)fluoranthene (0.1), Benzo(k)fluoranthene (0.01), Chrysene (0.001), Dibenz(a,h)anthracene (1), and Indeno(1,2,3-cd)pyrene (0.1).

(2) Per EPA Region IV guidance (EPA, 1996a), this column contains the arithmetic average of detected concentrations only.

(3) Per EPA Region IV guidance (EPA, 1996a), it was assumed that the sampling data are log normally distributed.

(4) Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

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MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
5TH & CLEVELAND

Scenario Timeframe:	Current/Future
Medium:	Sediment
Exposure Medium:	Sediment
Exposure Point:	Culvert

Chemical of Potential Concern	Units	Arithmetic Mean(2)	95% UCL of Log Normal Data(3)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency(4)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	ug/kg	426	NC	1,100		mg/kg	0.11	Max	Max			
Benzo(a)pyrene	ug/kg	622	NC	1,300		mg/kg	1.3	Max	Max			
Benzo(b) fluoranthene	ug/kg	481	NC	1,200		mg/kg	0.12	Max	Max			
Benzo(k) fluoranthene	ug/kg	611	NC	1,300		mg/kg	0.013	Max	Max			
Chrysene	ug/kg	350	NC	1,400		mg/kg	0.0014	Max	Max			
Indeno(1,2,3-cd)pyrene	ug/kg	450	NC	630		mg/kg	0.063	Max	Max			
CPAH TEF(1)	ug/kg	N/A	N/A	N/A		mg/kg	1.6	N/A	Max			
PCB-1260 (Aroclor 1260)	ug/kg	147	NC	370		mg/kg	0.37	Max	Max			
2,3,7,8-TCDD (TEQ)	ng/kg	19	NC	19		mg/kg	0.000019	Max	Max			
Antimony	mg/kg	3	NC	7.8		mg/kg	7.8	Max	Max			
Arsenic	mg/kg	5.8	NC	13		mg/kg	13	Max	Max			
Barium	mg/kg	232	NC	410		mg/kg	410	Max	Max			
Cadmium	mg/kg	3	NC	7.1		mg/kg	7.1	Max	Max			
Chromium	mg/kg	25	NC	60		mg/kg	60	Max	Max			
Copper	mg/kg	89	NC	270		mg/kg	270	Max	Max			
Iron	mg/kg	10,080	NC	20,000		mg/kg	20,000	Max	Max			
Lead	mg/kg	618	NC	1,400		mg/kg	618	Arith. Mean	Arith. Mean			
Vanadium	mg/kg	12	NC	15		mg/kg	15	Max	Max			

Statistics: Maximum Detected Value (Max); 95% UCL of Log-transformed Data (95% UCL-T)

NC - Not Calculated. The 95% UCL was not calculated because the data set contained less than 10 samples; therefore, the maximum detected concentration will be used as the EPC.

(1) As an interim procedure, Region IV has adopted a toxicity equivalency factor (TEF) methodology for carcinogenic PAHs based on each compound's relative potency to the potency of benzo(a)pyrene (BAP). The following TEFs were used to convert the concentration of each PAH compound to an equivalent concentration of BAP: Benzo(a)anthracene (0.1), Benzo(a)pyrene (1), Benzo(b)fluoranthene (0.1), Benzo(k)fluoranthene (0.01), Chrysene (0.001), Dibenz(a,h)anthracene (1), and Indeno(1,2,3-cd)pyrene (0.1).

(2) Per EPA Region IV guidance (EPA, 1996a), *this column contains the arithmetic average of detected concentrations only.*

(3) Per EPA Region IV guidance (EPA, 1996a), it was assumed that the sampling data are log normally distributed

(4) Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

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MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
5TH & CLEVELAND

Scenario Timeframe:	Current/Future
Medium:	Surface Water
Exposure Medium:	Surface Water
Exposure Point:	Unnamed Creek

Chemical of Potential Concern	Units	Arithmetic Mean(2)	95% UCL of Log Normal Data(3)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency(4)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	ug/L	0.495	NC*	0.53	J	mg/L	0.000053	Max	Max			
Chrysene	ug/L	0.52	NC*	0.52	J	mg/L	0.00000052	Max	Max			
Indeno(1,2,3-cd)pyrene	ug/L	0.64	NC*	0.64	J	mg/L	0.000064	Max	Max			
CPAH TEF(1)	ug/L	N/A	N/A	N/A		mg/L	0.00011752	N/A	N/A			
Carbazole	ug/L	0.67	NC	0.67	J	mg/L	0.00067	Max	Max			
Di-n-Octylphthalate	ug/L	0.54	NC	0.54	J	mg/L	0.00054	Max	Max			
Barium	mg/L	0.11	0.14	0.18	J	mg/L	0.14	95% UCL	95% UCL			
Chromium	mg/L	0.0039	0.0049	0.0069	J	mg/L	0.0049	95% UCL	95% UCL			
Iron	mg/L	4	51	13		mg/L	13	Max	Max			
Manganese	mg/L	0.097	0.18	0.25		mg/L	0.18	95% UCL	95% UCL			

Statistics: Maximum Detected Value (Max); 95% UCL of Log-transformed Data (95% UCL-T)

NC - Not Calculated. The 95% UCL was not calculated because the data set contained less than 10 samples; therefore, the maximum detected concentration will be used as the EPC.

(1) As an interim procedure, Region IV has adopted a toxicity equivalency factor (TEF) methodology for carcinogenic PAHs based on each compound's relative potency to the potency of benzo(a)pyrene (BAP). The following TEFs were used to convert the concentration of each PAH compound to an equivalent concentration of BAP: Benzo(a)anthracene (0.1), Benzo(a)pyrene (1), Benzo(b)fluoranthene (0.1), Benzo(k)fluoranthene (0.01), Chrysene (0.001), Dibenz(a,h)anthracene (1), and Indeno(1,2,3-cd)pyrene (0.1).

(2) Per EPA Region IV guidance (EPA, 1996a), this column contains the arithmetic average of detected concentrations only.

(3) Per EPA Region IV guidance (EPA, 1996a), it was assumed that the sampling data are log normally distributed.

(4) Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

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TABLE 3.9
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
5TH & CLEVELAND

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater
Exposure Point:	Surficial Aquifer

Chemical of Potential Concern	Units	Arithmetic Mean(2)	95% UCL of Log Normal Data(3)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency(4)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
1,2-Dibromo-3-Chloropropane	ug/L	3.1	NC	1.4	J	mg/L	0.0031	Arithmetic Mean	Arithmetic Mean			
PCB-1242 (Arochlor 1242)	ug/L	0.7	NC	1.4	J	mg/L	0.0007	Arithmetic Mean	Arithmetic Mean			
Arsenic	ug/L	2.1	NC	3.5		mg/L	0.0021	Arithmetic Mean	Arithmetic Mean			
Iron	ug/L	3,953	NC	6,600		mg/L	3.95	Arithmetic Mean	Arithmetic Mean			

The plume consist of groundwater samples FCMW01, FCMW02, FCMW03, and FCMW05.

Statistics: Maximum Detected Value (Max); 95% UCL of Log-transformed Data (95% UCL-T)

NC - Not Calculated. The 95% UCL was not calculated because the data set contained less than 10 samples; therefore, the maximum detected concentration will be used as the EPC.

(1) As an interim procedure, Region IV has adopted a toxicity equivalency factor (TEF) methodology for carcinogenic PAHs based on each compound's relative potency to the potency of benzo(a)pyrene (BAP). The following TEFs were used to convert the concentration of each PAH compound to an equivalent concentration of BAP: Benzo(a)anthracene (0.1), Benzo(a)pyrene (1), Benzo(b)fluoranthene (0.1), Benzo(k)fluoranthene (0.01), Chrysene (0.001), Dibenz(a,h)anthracene (1), and Indeno(1,2,3-cd)pyrene (0.1).

(2) Per EPA Region IV guidance (EPA, 1996a), this column contains the arithmetic average of detected concentrations only.

(3) Per EPA Region IV guidance (EPA, 1996a), it was assumed that the sampling data are log normally distributed.

(4) Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

TABLE 3.1
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
LONNIE C. MILLER

Scenario Timeframe:	Current/Future
Medium:	Surface Soil/Sediment
Exposure Medium:	Surface Soil/Sediment
Exposure Point:	Lonnie C. Miller Park

Chemical of Potential Concern	Units	Arithmetic Mean(2)	95% UCL of Log Normal Data(3)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency(4)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	ug/kg	200	234	710		mg/kg	0.0234	95% UCL-T	95% UCL-T			
Benzo(a)pyrene	ug/kg	172	247	630		mg/kg	0.247	95% UCL-T	95% UCL-T			
Benzo(b and/or k) fluoranthene*	ug/kg	423	361	1,000	J	mg/kg	0.0361	95% UCL-T	95% UCL-T			
Benzo(b)fluoranthene	ug/kg	199	427	670		mg/kg	0.0427	95% UCL-T	95% UCL-T			
Benzo(k)fluoranthene	ug/kg	235	411	570		mg/kg	0.00411	95% UCL-T	95% UCL-T			
Dibenz(a,h)anthracene	ug/kg	108	209	150	J	mg/kg	0.15	MAX	MAX			
Indeno (1,2,3-c,d) pyrene	ug/kg	181	2,982	410		mg/kg	0.041	MAX	MAX			
Chrysene	ug/kg	216	2943	560		mg/kg	0.00056	MAX	MAX			
CPAH TEF	ug/kg	NA	NA	NA		mg/kg	0.544	NA	NA			
PCB-1260 (Arochlor 1260)	ug/kg	243	193	700		mg/kg	0.193	95% UCL-T	95% UCL-T			
2,3,7,8-TCDD (TEQ)	ng/kg	67	NC	67		mg/kg	0.000067	MAX	MAX			
Aluminum	mg/kg	4,961	7,081	20,000		mg/kg	7081	95% UCL-T	95% UCL-T			
Antimony	mg/kg	15	37	40	J	mg/kg	37	95% UCL-T	95% UCL-T			
Arsenic	mg/kg	12	30	17.5		mg/kg	17.5	MAX	MAX			
Barium	mg/kg	204	443	830		mg/kg	443	95% UCL-T	95% UCL-T			
Cadmium	mg/kg	4	15	8.2	J	mg/kg	8.2	MAX	MAX			
Chromium, Total	mg/kg	36	111	160		mg/kg	111	95% UCL-T	95% UCL-T			
Copper	mg/kg	646	3,993	4,200	J	mg/kg	3,993	MAX	MAX			
Cyanide	mg/kg	1.6	1.8	5.5	J	mg/kg	1.8	95% UCL-T	95% UCL-T			
Iron	mg/kg	53,788	200,365	220,000		mg/kg	200,365	MAX	MAX			
Lead	mg/kg	620	NC	4,700	J	mg/kg	620	Arith Mean	Arith Mean			
Manganese	mg/kg	398	1,466	1,600		mg/kg	1,466	95% UCL-T	95% UCL-T			
Nickel	mg/kg	47	202	290	J	mg/kg	202	95% UCL-T	95% UCL-T			
Thallium	mg/kg	3.7	1.6	9.3		mg/kg	1.6	95% UCL-T	95% UCL-T			
Vanadium	mg/kg	8.5	11	28	J	mg/kg	11	95% UCL-T	95% UCL-T			
Zinc	mg/kg	1,051	5,248	5,900		mg/kg	5,248	95% UCL-T	95% UCL-T			

Statistics: Maximum Detected Value (Max); 95% UCL of Log-transformed Data (95% UCL-T)

NC - Not Calculated. The 95% UCL was not calculated because the data set contained less than 10 samples; therefore, the maximum detected concentration will be used as the EPC.

(1) As an interim procedure, Region IV has adopted a toxicity equivalency factor (TEF) methodology for carcinogenic PAHs based on each compound's relative potency to the potency of benzo(a)pyrene (BAP). The following TEFs were used to convert the concentration of each PAH compound to an equivalent concentration of BAP: Benzo(a)anthracene (0.1), Benzo(a)pyrene (1), Benzo(b)fluoranthene (0.1), Benzo(k)fluoranthene (0.01), Chrysene (0.001), Dibenz(a,h)anthracene (1), and Indeno(1,2,3-cd)pyrene (0.1).

(2) Per EPA Region IV guidance (EPA, 1996a), this column contains the arithmetic average of detected concentrations only.

(3) Per EPA Region IV guidance (EPA, 1996a), it was assumed that the sampling data are log normally distributed.

(4) Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

*The laboratory reported the compound as benzo(b and/or k)fluoranthene; therefore, the highest TEF was used (i.e., benzo(b)fluoranthene).

TABLE 3.2
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
LONNIE C. MILLER

Scenario Timeframe:	Future
Medium:	Subsurface Soil
Exposure Medium:	Subsurface Soil
Exposure Point:	Lonnie C. Miller Park

Chemical of Potential Concern	Units	Arithmetic Mean(2)	95% UCL of Log Normal Data(3)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency(4)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	ug/kg	106	344	230	J	mg/kg	0.023	MAX	MAX			
Benzo(a)pyrene	ug/kg	392	897	650		mg/kg	0.397	95% UCL-T	95% UCL-T			
Benzo(b)fluoranthene	ug/kg	469	352	960		mg/kg	0.0352	95% UCL-T	95% UCL-T			
Benzo(k)fluoranthene	ug/kg	93	435	170	J	mg/kg	0.0017	MAX	MAX			
Chrysene	ug/kg	459	4,287	890		mg/kg	0.00089	MAX	MAX			
Dibenz(a,h)anthracene	ug/kg	120	248	120	J	mg/kg	0.12	MAX	MAX			
Indeno (1,2,3-c,d) pyrene	ug/kg	239	409	430	J	mg/kg	0.0409	95% UCL-T	95% UCL-T			
CPAH TEF(1)	ug/kg	N/A	N/A	N/A		mg/kg	0.62	N/A	N/A			
Dieldrin	ug/kg	13	6	72	J	mg/kg	0.006	95% UCL-T	95% UCL-T			
PCB-1248(Aroclor 1248)	ug/kg	1,007	130	2,550	J	mg/kg	0.13	95% UCL-T	95% UCL-T			
PCB-1254(Aroclor 1254)	ug/kg	1,405	737	2,800		mg/kg	0.737	95% UCL-T	95% UCL-T			
2,3,7,8-TCDD (TEQ)	ng/kg	70	NC	93	J	mg/kg	0.000093	MAX	MAX			
Aluminum	mg/kg	8,763	6,961	26000		mg/kg	6,961	95% UCL-T	95% UCL-T			
Antimony	mg/kg	22	61	73		mg/kg	61	95% UCL-T	95% UCL-T			
Arsenic	mg/kg	26	77	58		mg/kg	58	MAX	MAX			
Barium	mg/kg	416	492	1,400		mg/kg	492	95% UCL-T	95% UCL-T			
Cadmium	mg/kg	8.16	18	100		mg/kg	18	95% UCL-T	95% UCL-T			
Chromium (Total)	mg/kg	72	143	370		mg/kg	143	95% UCL-T	95% UCL-T			
Copper	mg/kg	1,045	5,258	5,000		mg/kg	5,000	MAX	MAX			
Cyanide	mg/kg	1.1	2.0	7.6	J	mg/kg	2.0	95% UCL-T	95% UCL-T			
Iron	mg/kg	106,725	758,140	290,000	J	mg/kg	290,000	MAX	MAX			
Lead	mg/kg	810	NC	4,300		mg/kg	810	Arith. Mean	Arith. Mean			
Manganese	mg/kg	910	5,000	5,700	J	mg/kg	5,000	95% UCL-T	95% UCL-T			
Mercury	mg/kg	0.688	308,191	5	J	mg/kg	5	MAX	MAX			
Nickel	mg/kg	118	344	1,800		mg/kg	344	95% UCL-T	95% UCL-T			
Thallium	mg/kg	4.7	1.61	12	J	mg/kg	1.61	95% UCL-T	95% UCL-T			
Vanadium	mg/kg	13	16	49	J	mg/kg	16	95% UCL-T	95% UCL-T			
Zinc	mg/kg	1,649	3678	4,100	J	mg/kg	3678	95% UCL-T	95% UCL-T			

For non-detects, 1/2 sample quantitation limit was used as a proxy concentration; for duplicate sample results, the average value was used in the calculation.

Statistics: Maximum Detected Value (Max); 95% UCL of Log-transformed Data (95% UCL-T)

NC - Not Calculated. The 95% UCL was not calculated because the data set contained less than 10 samples; therefore, the maximum detected concentration will be used as the EPC.

N/A - Not Applicable

(1) As an interim procedure, Region IV has adopted a toxicity equivalency factor (TEF) methodology for carcinogenic PAHs based on each compound's relative potency to the potency of benzo(a)pyrene (BAP). The following TEFs were used to convert the concentration of each PAH compound to an equivalent concentration of BAP: Benzo(a)anthracene (0.1), Benzo(a)pyrene (1), Benzo(b)fluoranthene (0.1), Benzo(k)fluoranthene (0.01), Chrysene (0.001), Dibenz(a,h)anthracene (1), and Indeno(1,2,3-cd)pyrene (0.1).

(2) Per EPA Region IV guidance (EPA, 1996a), this column contains the arithmetic average of detected concentrations only.

(3) Per EPA Region IV guidance (EPA, 1996a), it was assumed that the sampling data are log normally distributed.

(4) Per EPA Region IV guidance (EPA, 1996a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

TABLE 3.3
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
LONNIE C. MILLER

Scenario Timeframe:	Current/Future
Medium:	Surface Water
Exposure Medium:	Surface Water
Exposure Point:	Unnamed Tributary

Chemical of Potential Concern	Units	Arithmetic Mean(2)	95% UCL of Log Normal Data(3)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency(4)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	ug/L	0.53	6.29	4.1	J	mg/L	0.00041	MAX	MAX			
Benzo(a)Pyrene	ug/L	1.11	6.89	2.4	J	mg/L	0.0024	MAX	MAX			
Benzo(b)fluoranthene	ug/L	1.72	6.03	3.2	J	mg/L	0.00032	MAX	MAX			
Benzo(k)fluoranthene	ug/L	2.4	5.45	3.4	J	mg/L	0.000034	MAX	MAX			
Chrysene	ug/L	2.27	6.31	5.1	J	mg/L	0.0000051	MAX	MAX			
Dibenzo(a,h)anthracene	ug/L	1.3	5.52	1.3	J	mg/L	0.0013	MAX	MAX			
Indeno(1,2,3-cd)pyrene	ug/L	1.7	5.37	1.7	J	mg/L	0.00017	MAX	MAX			
CPAH TEF(1)	ug/L	NA	NA	NA	NA	mg/L	0.0046	NA	NA			
Di-n-octylphthalate	ug/L	1.27	5.59	1.8	J	mg/L	0.0018	MAX	MAX			
Arsenic	mg/L	0.012	0.004	0.03		mg/L	0.004	95% UCL-T	95% UCL-T			
Barium	mg/L	0.19	0.34	1.1		mg/L	0.34	95% UCL-T	95% UCL-T			
Cadmium	mg/L	0.0044	0.001	0.0048	J	mg/L	0.001	95% UCL-T	95% UCL-T			
Chromium	mg/L	0.017	0.005	0.045		mg/L	0.005	95% UCL-T	95% UCL-T			
Cobalt	mg/L	0.0019	0.001	0.0019	J	mg/L	0.001	95% UCL-T	95% UCL-T			
Lead	mg/L	0.047	0.053	0.3		mg/L	0.053	95% UCL-T	95% UCL-T			
Silver	mg/L	0.0027	0.001	0.0032	J	mg/L	0.001	95% UCL-T	95% UCL-T			
Vanadium	mg/L	0.0099	0.006	0.024	J	mg/L	0.006	95% UCL-T	95% UCL-T			

Statistics: Maximum Detected Value (Max); 95% UCL of Log-transformed Data (95% UCL-T)

NC - Not Calculated. The 95% UCL was not calculated because the data set contained less than 10 samples; therefore, the maximum detected concentration will be used as the EPC.

(1) As an interim procedure, Region IV has adopted a toxicity equivalency factor (TEF) methodology for carcinogenic PAHs based on each compound's relative potency to the potency of benzo(a)pyrene (BAP). The following TEFs were used to convert the concentration of each PAH compound to an equivalent concentration of BAP: Benzo(a)anthracene (0.1), Benzo(a)pyrene (1), Benzo(b)fluoranthene (0.1), Benzo(k)fluoranthene (0.01), Chrysene (0.001), Dibenz(a,h)anthracene (1), and Indeno(1,2,3-cd)pyrene (0.1).

(2) Per EPA Region IV guidance (EPA, 1998a), this column contains the arithmetic average of detected concentrations only.

(3) Per EPA Region IV guidance (EPA, 1998a), it was assumed that the sampling data are log normally distributed.

(4) Per EPA Region IV guidance (EPA, 1998a), the central tendency evaluation will be presented in the risk characterization uncertainty section. Further, a central tendency evaluation will only be performed for scenarios, media, and chemicals of concern.

*The laboratory reported the compound as benzo(b and/or k)fluoranthene; therefore, the highest TEF was used (i.e., benzo(b)fluoranthene).

TABLE 3.4
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
JACKSONVILLE ASH SITES
LONNIE C. MILLER

Scenario Timeframe:	Future
Medium:	Groundwater
Exposure Medium:	Groundwater
Exposure Point:	Surficial Aquifer

Chemical of Potential Concern	Units	Arithmetic Mean(2)	95% UCL of Log Normal Data(3)	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency(4)		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
1,2-Dichloroethylene	ug/L	16	NC	16		mg/L	0.016	Arith. Mean	Arith. Mean			
Cresol M & P	ug/L	75	NC	75		mg/L	0.075	Arith. Mean	Arith. Mean			
Vinly Chloride	ug/L	0.54	NC	0.54	J	mg/L	0.00054	Arith. Mean	Arith. Mean			
Cadmium	mg/L	0.0034	NC	0.0034	J	mg/L	0.0034	Arith. Mean	Arith. Mean			
Iron	mg/L	1.01	NC	1.2		mg/L	1.01	Arith. Mean	Arith. Mean			
Manganese	mg/L	0.12	NC	0.16		mg/L	0.12	Arith. Mean	Arith. Mean			

The plume consist of groundwater samples LMMW003, LMMW004, LMMW005, and LMMW007.

Statistics: Maximum Detected Value (Max); 95% UCL of Log-transformed Data (95% UCL-T)

NC - Not Calculated. The 95% UCL was not calculated because the data set contained less than 10 samples; therefore, the maximum detected concentration will be used as the EPC.

(1) As an interim procedure, Region IV has adopted a toxicity equivalency factor (TEF) methodology for carcinogenic PAHs based on each compound's relative potency to the potency of benzo(a)pyrene (BAP). The following TEFs were used to convert the concentration of each PAH compound to an equivalent concentration of BAP: Benzo(a)anthracene (0.1), Benzo(a)pyrene (1), Benzo(b)fluoranthene (0.1), Benzo(k)fluoranthene (0.01), Chrysene (0.001), Dibenz(a,h)anthracene (1), and Indeno(1,2,3-cd)pyrene (0.1).

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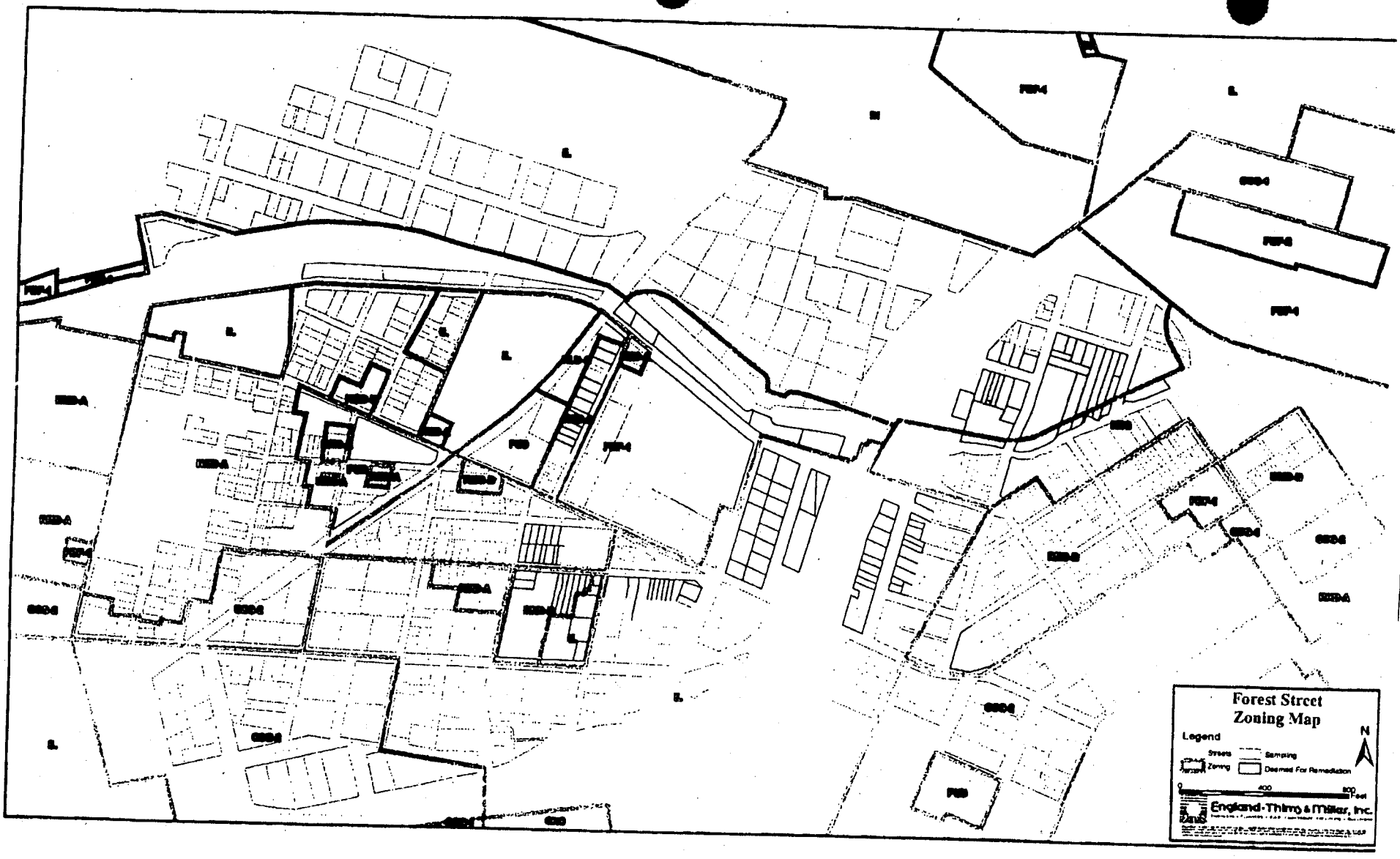
Appendix E

Zoning Maps, Land Use Ordinance and North Riverside Neighborhood Action Plan


Forest Street
Zoning Map
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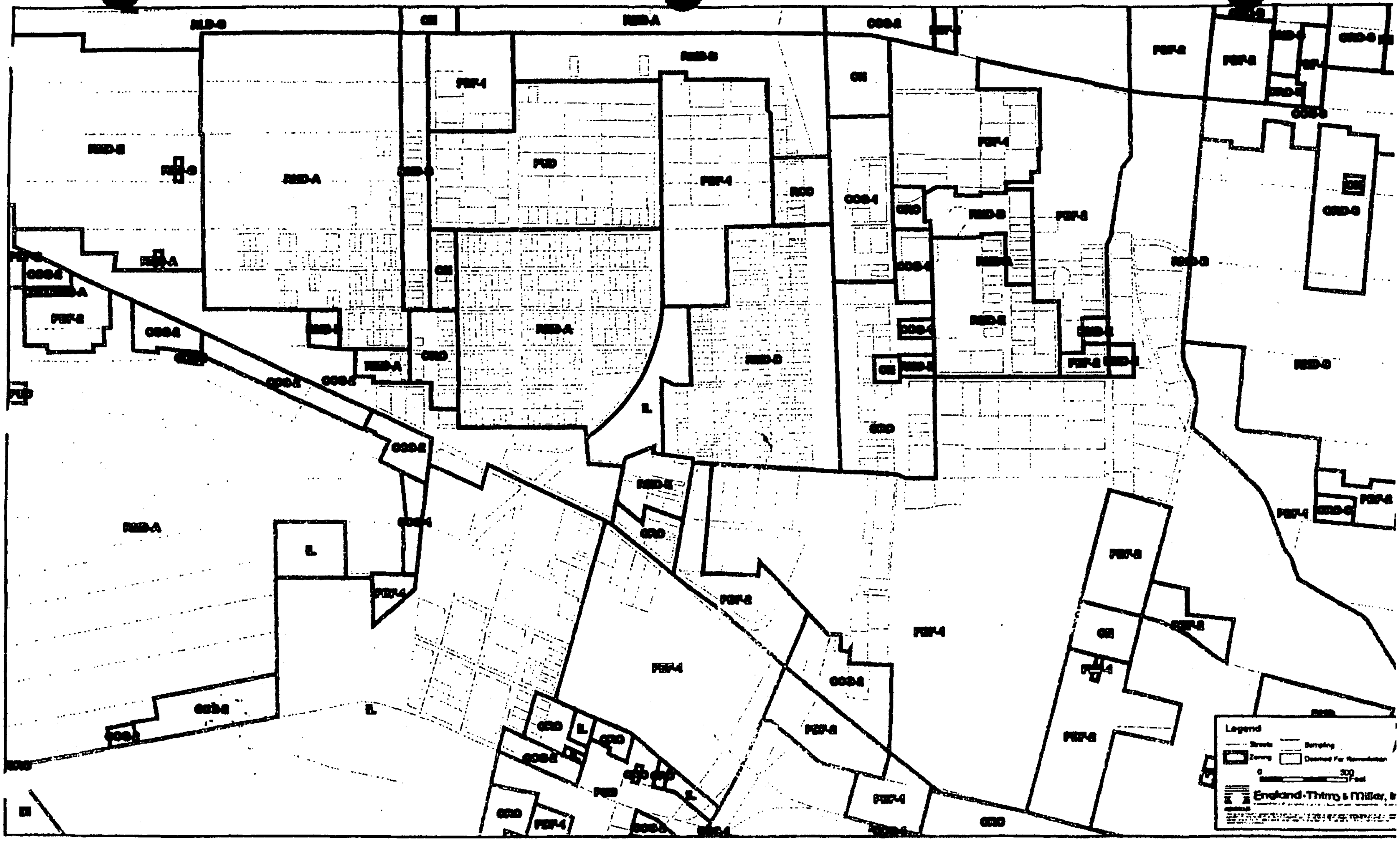
England-Thims & Miller, Inc.



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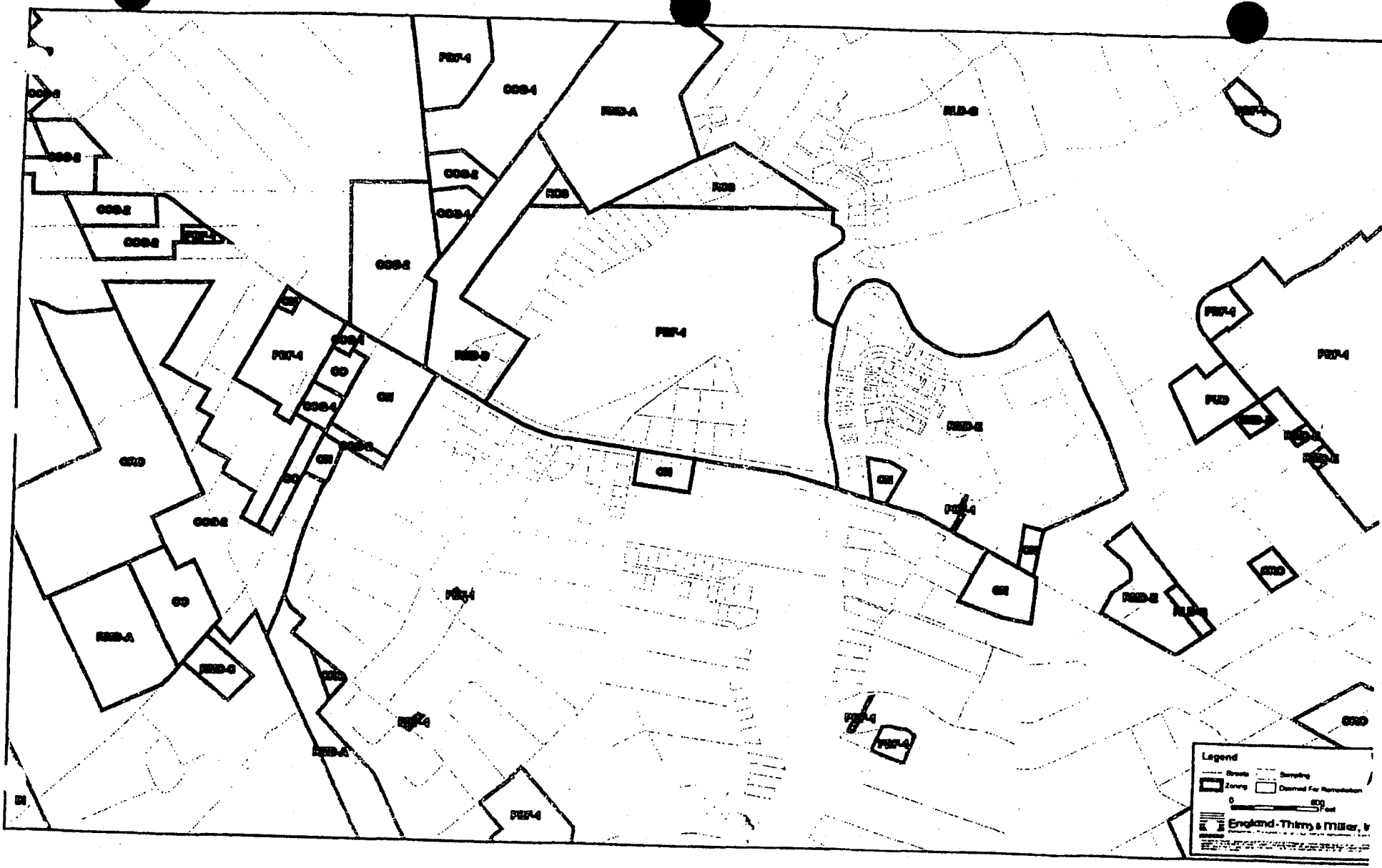
Legend
England-Thimy & Miller, I

Enacted 8/12/03

Introduced by Council Members Fullwood and Brown:

ORDINANCE 2003-892-E

AN ORDINANCE APPROVING AND ADOPTING THE NORTH RIVERSIDE NEIGHBORHOOD ACTION PLAN, DATED MARCH 2003, AND THE RECOMMENDATIONS CONTAINED THEREIN; ESTABLISHING THE NORTH RIVERSIDE NEIGHBORHOOD STUDY AREA, GENERALLY BOUNDED BY INTERSTATE 10 TO THE SOUTH, INTERSTATE 95 TO THE EAST, MCDUFF AVENUE TO THE WEST AND BEAVER STREET TO THE NORTH, AS DEFINED AND SHOWN ON THE STUDY MAPS ("STUDY AREA"); REQUIRING THAT ALL DEVELOPMENT AND REDEVELOPMENT WITHIN THE STUDY AREA MUST BE CONSISTENT AND COMPATIBLE WITH THE STUDY RECOMMENDATIONS; DELEGATING TO THE PLANNING AND DEVELOPMENT DEPARTMENT THE AUTHORITY TO INTERPRET THE STUDY AND TO REVIEW ALL PROPOSED DEVELOPMENT AND REDEVELOPMENT WITHIN THE STUDY AREA TO ENSURE CONSISTENCY AND COMPATIBILITY WITH THE STUDY RECOMMENDATIONS; PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Mayor's Growth Management Task Force recommended that efforts be undertaken to restore and revitalize older neighborhoods; and

WHEREAS, in August 2001, District Council Member Fullwood and the Planning and Development Department determined that a neighborhood action plan was needed to guide development and redevelopment within the North Riverside neighborhood and initiated the planning process by creating a Citizens Planning Team

consisting of representatives from the North Riverside Community Development Corporation and area business owners; and

WHEREAS, District Council Member Fullwood, with the assistance of the Planning and Development Department, began the planning process with the strong support and leadership from the community; and

WHEREAS, a planning team managed by the Planning and Development Department Comprehensive Planning Division worked with the Citizens Planning Team to examine the following major issues critical to the revitalization of the North Riverside Study Area: (1) infill housing and rehabilitation; (2) land use and zoning; (3) economic development; (4) infrastructure; (5) crime; (6) environmental issues; and (7) parks and recreation; and

WHEREAS, the Planning and Development Department and staff from the Department of Neighborhoods, with the assistance of APD, Inc., the planning consultant, held a number of public forums and meetings to obtain the views of the community residents and business owners of the North Riverside area to ensure that public participation was an essential component of the plan; and

WHEREAS, during the planning process the following "visions" were created:

(a) There should be a historic preservation and conservation emphasis in rehabilitation efforts;

(b) There should be rehabilitation and infill housing efforts;

(c) McDuff Avenue and Edison Avenue are the hubs of commercial activity for the surrounding neighborhoods;

(d) The existing industrial section should continue as a central location of light industrial and manufacturing in the core city; and

(e) Future industrial development should be targeted for the area east of Osceola Street; and

WHEREAS, after extensive public participation and subsequent review and revision by the Planning and Development Department planning team and the Citizens Planning Team, the North Riverside Neighborhood Action Plan was developed; now, therefore

BE IT ORDAINED by the Council of the City of Jacksonville:

Section 1. Approval and Adoption of North Riverside Neighborhood Action Plan. The North Riverside Neighborhood Action Plan dated March 2003 is hereby approved and adopted as the neighborhood plan guiding all development and redevelopment within the boundaries of the North Riverside Neighborhood as established in the Plan and generally bounded by Interstate 95 on the east, Interstate 10 on the South, McDuff Avenue on the west and Beaver Street on the north. A copy of the North Riverside Neighborhood Action Plan is on file in the Division of Legislative Services.

Section 2. All Development and Redevelopment in the North Riverside Neighborhood Study Area Compatible and Consistent with The North Riverside Neighborhood Action Plan. All development and redevelopment within the North Riverside Study Area, including, but not limited to, all public works projects and streetscape improvements, partnerships with the City that require funding and all projects requiring permits, shall be compatible and consistent with the plan recommendations contained in the North Riverside Neighborhood Action Plan.

Section 3. Delegation of Authority to Interpret the North Riverside Neighborhood Action Plan and Approve Development and Redevelopment Projects to the Planning and Development Department. The Council hereby delegates the responsibility and authority to interpret the North Riverside Neighborhood Action Plan and to review and approve the development and redevelopment projects --

described in Section 2 of this ordinance to ensure consistency and compatibility with the plan to the Director of the Planning and Development Department.

Section 4. Continued Involvement of the City Staff, Citizens, Representatives of Community Development Corporation and Businesses. Because the residents of the area, the Community Development Corporation, the Citizens Planning Team, and businesses have been invaluable in determining the future of their neighborhood and because their continued involvement is essential to ensure the success of this Neighborhood Action Plan, the Council hereby urges and requests that the City staff continue to encourage and support the process of active involvement of all of these parties in the implementation of the Neighborhood Action Plan.

Section 5. Effective Date. This ordinance shall become effective upon signature by the Mayor or upon becoming effective without the Mayor's signature.

Form Approved:

/s/ Theresa M. Rooney

Office of General Counsel

Legislation Prepared By: Theresa M. Rooney

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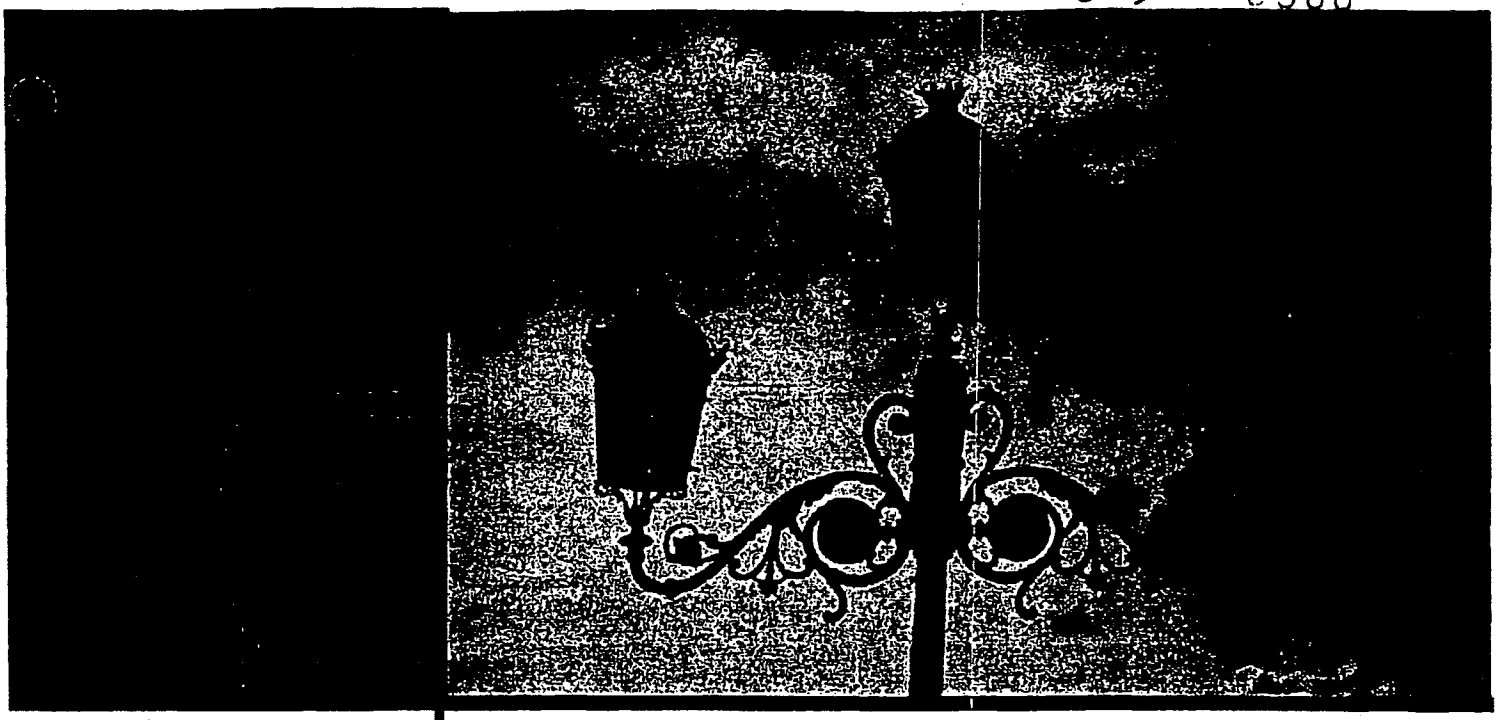

prepared by

APD, Inc.

City of Jacksonville Planning & Development Department

March 2003

North Riverside Neighborhood Action Plan

... a comprehensive plan for revitalization.

North Riverside Neighborhood Action Plan

John Delaney
Mayor
City of Jacksonville

Reggie Fullwood
Council Member, District 9

Jeannie Fewell
Director

Prepared by
APD, Inc.
The Planning & Development Department

March, 2003

Acknowledgments

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Councilman Reggie Fullwood, District 9

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Idella Bowlens
Edith B. Foston
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Linda Moore
John Bryant
James O. Brown
Maefield Black
Pearl Majors
Elizabeth Braswell
Vince and Diane Kerr
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Les Paul Garner
Mattie Pollard
Mildred D Brown
John J Davis
Florestine Meeks
Alonzo King
Loretta Bolton
Dorothy Brown
Louvenia Sewell
Lillie Ware
Henry Roth
Gordon Strickland
Bernice Griffin

Business Owners
John Bentley
Bob Smith
Michael Corrigan, Jr
John Falconetti
Bob Gay
Vince and Diane Kerr
Richard Speir
Tracy Jackson
Bill Reed
David Jones
Bill Rowe
Ed Gray
Libby Wilson
Jeff Simms
Patrick Hayle
Henry Freeman
Pete Amont
Albert Harris
Jerry West
Brian Chamberlain
Chuck Boldt Sr.
Chuck Boldt Jr.
Michael Bryant
Kevin Davis
Janet Dodd
Kelli Wells
Pastor Elwyn Jenkins

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List of Maps & Tables

Maps

Tables

Section 1
Executive Summary

The North Riverside Neighborhood Action Plan...

- Serves as the overall development guide for the community;
- Provides the City with a guide for future development & redevelopment; and
- Reflects the concerns & ideas of the community residents.

The North Riverside Neighborhood is an urban core neighborhood that is presently in a state of decline. However, the community has a range of assets, such as its proximity to downtown, the presence of a strong community organization, and vibrant business community that can serve as an impetus for revitalization of the area. The North Riverside Neighborhood Action Plan identifies and builds on the assets within the community in its recommended strategies for redevelopment through an analysis of existing conditions as well as input from residents, business owners, and other community stakeholders. The Neighborhood Action Plan incorporates all of these components in order to provide a comprehensive plan of action for revitalization.

The residents, business leaders, and other stakeholders have cooperated in the creation of this neighborhood action plan since the initiation of the planning process, providing valuable insight and guidance. The first community meeting provided survey results that outlined the focus of the Plan. Two workshops were held with the North Riverside Community Development Corporation to define a "vision" for the community. Workshops were also held with area business leaders to discuss issues and potential strategies.

The North Riverside Neighborhood Action Plan focuses on issues and concerns outlined by residents through a Strength Weaknesses Opportunities and Threats (SWOT) survey and subsequent community meetings. Residents and business leaders generally outlined similar concerns when surveyed. Based on the input provided, the neighborhood action plan strategies focus on the following:

- Housing
- Infrastructure
- Economic Development

Major recommendations include...

- Housing strategy that uses a targeted approach;
- Development of a Town Center project; and
- Creation of an urban industrial park.

Plan Organization

The North Riverside Neighborhood Action Plan is composed of sections that include a neighborhood profile that provides a review and analysis of existing conditions as well as the following:

- A Citizen vision component which outlines the results of the Strength Weaknesses Opportunities-Threats (SWOT) Survey and highlights the involvement of neighborhood stakeholders;
- A housing strategy that promotes using a targeted approach to housing rehabilitation and development;
- An economic development strategy that promotes the designation of a Community Redevelopment Area and the creation of an urban industrial park;
- An infrastructure component that recommends the coordination of sidewalk, curb and gutter improvements with housing improvements throughout the neighborhood;
- A description of the zoning districts within the study area and review of zoning issues;
- A summary of conclusions and recommendations; and
- An implementation and evaluation component that outlines a series of action steps needed to guide the first phase of implementation. The evaluation component provides a means for gauging the successes and accomplishments of the plan through indicators and quantitative measures.

This neighborhood action plan is the direct result of the collaborative efforts of the City of Jacksonville and the North Riverside Community Development Corporation. Each revitalization strategy contained in this Plan was approved by the residents and area business leaders and reflects the vision of the North Riverside Community.

Section 2
Neighborhood Profile

Introduction

The North Riverside Study Area is an urban core neighborhood located near the Downtown Business District (see Map 1). This neighborhood is historically racially diverse; however, the neighborhood has shifted to a predominately African-American population. North Riverside developed as a residential neighborhood that was an extension of the Riverside area, but has been inundated with industrial and commercial uses since the construction of Interstate-95. This report analyzes the results of the windshield survey, which was designed to inventory the existing land uses and building conditions in the area. Additionally, an inventory of the existing zoning districts is also provided.

North Riverside is historically a...

- Working class community;
- Community built as the result of the employment opportunities from the railroad;
- Community built along a grid pattern without any amenities such as parks or other public uses.
- Community with frame vernacular, bungalow, and shotgun homes.

Historical Background

The North Riverside Study Area is part of a community commonly referred to as "North Riverside." The neighborhood is comprised of historically significant modest homes associated with the working class. Much of the development is the result of employment opportunities that were near the area, and a drainage and bulkhead project for McCoys Creek that created a significant amount of land. While a historical survey has not been conducted for the area, the historical development of the community, as well as the area's architecture, indicate that the community could have a wealth of historical resources.

With Jacksonville's rapid growth during the first quarter of the twentieth century, residential construction began to spread out in all directions from the Downtown area, as well as from established neighborhoods such as LaVilla, Brooklyn, Riverside, Springfield, Hansontown, Sugar Hill, East Jacksonville, and Oakland. This period saw the development of several new neighborhoods including Murray Hill, Ortega, Avondale, St. Johns Park, Lakeshore, Lackawanna, North Riverside, Woodstock, Barnett's Addition (Durkeeville area), New Springfield, Brentwood, Norwood, Riverview,

Wrightville A.M.E. Church on Edison Ave.

Neighborhoods near North Riverside:

- Riverside/Avondale Historic District
- Murray Hill
- Brooklyn
- New Town
- College Park

Panama Park, Phoenix Park, Arlington, San Marco, and other neighborhoods that constituted the old City of South Jacksonville. Much of the new residential development to the north and west was influenced by new employment opportunities created with the construction of a major railroad repair facility off McDuff Avenue and Warrington Avenue by the Seaboard Coast Line Railroad. A 1909 plat describes this facility as the "Seaboard Air Lineshops and Terminals" employing about 1,000 men."

The residential development of the area north of Riverside and south of McCoy's Creek began during this period with the platting of several new subdivisions. B.H. Gandy filed the first recorded new subdivision in the area following the Great Fire of 1901 in 1905. Brinkley H. Gandy had resided on a large parcel fronting the Highway (Edison Avenue) which was an important thoroughfare connecting Downtown Jacksonville with rural southwest Duval County and Clay County via the Black Creek Road (Lennox Avenue). In that same year, William C. Fehranback filed the plat for the first of his two subdivisions in the area. During this period, Fehranback resided in the area at 634 Smith Street.

The Woodhaven Subdivision was filed in 1908 by Jacksonville real estate investors, O. Pierre Havens and Frank E. Wood. Between 1912 and 1917, H.B. Frazee, who was not listed as living in Jacksonville during the period, filed several new subdivisions or replats. All of the plats in the area show the traditional straight grid street pattern, with no indication of land dedicated for parks or other amenities. Alleys generally run mid-block. There is no indication of any uniform setbacks or other restrictions imposed by the developers, or of the elaborate infrastructure built by the developers of Riverside.

Most of the new subdivisions were bounded on the south by the railroad and the Highway (Edison Avenue) and by McCoy's Creek on the north. Although many of the street names are still used such as Forest Street, Calvin Street, and Lewis Street, others have changed such Webster Avenue, Delmar Street, Cherry Avenue (Belfort Street), Woodland Street, Park Street, 2nd Avenue, and the Highway (Edison Avenue). Interestingly, North Riverside was racially diverse for the first three decades of the 20th century, with the white population residing largely west of Broward Street. The African American population tended to be concentrated more to the east and north connecting with other predominately black neighborhoods such as Campbell's Addition to West Jacksonville, West Lewisville, Brooklyn, and Campbell's Hill.

According to the 1913 Sanborn Map many of the parcels in the area known today as North Riverside were occupied predominately by residential structures. This early development of the area is also reflected in the 1980 Census, which listed nearly fifty (50) percent of the housing units in Census Tract 26 as being constructed before 1940. Historic surveys in other parts of the Urban Core of Jacksonville have indicated that the percent of pre-1940 housing units is usually higher than indicated by the census. According to the Property Appraiser's database, 461 of the 1328 parcels in the North Riverside Study Area have buildings built before or in 1952.

Unpaved road in Mixontown.

The area including North Riverside has not been systematically surveyed for the presence of historic resources. However, several significant buildings in the area have been recorded by the Planning and Development Department. Founded in 1874, the Wrightsville A.M.E. Church (True Church of the Risen Christ) at 2297 Edison Avenue was constructed before 1913. Another early church was the Wesley Memorial Methodist Church at 401 Stockton Street that was constructed in 1908 and expanded in 1948. It is now the Greater Bethany Baptist Church. The 1922 sanctuary of the New St. James A.M.E. Church at 2128 Forest Street was just recently demolished.

The straightening and bulk heading the McCoy's Creek channel in 1930 created:

- 29 additional acres of land
- seven bridges, some of historical significance.

A significant drainage basin in the old core area of Jacksonville, McCoy's Creek was originally a sluggish, meandering swampy creek with a reputation for serious flooding and the production of stagnant pools where mosquitoes bred. To remedy this situation, the City of Jacksonville contracted with the Walter J. Bryson Company in 1928 to complete a major reworking of the creek. Completed by 1930, this $660,000, three mile drainage project included straightening and bulkheading the creek channel, gaining 29 acres of land by filling the adjacent swamps, and the construction of seven bridges including the ones crossing Myrtle Avenue, Stockton Street, and Kings Street. These bridges may also have historic significance.

Demographics

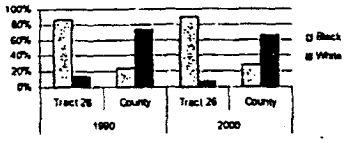
The Study Area is located entirely within Census Tract 26, and contains most of this census tract's residential areas. Census data were obtained and analyzed to determine socioeconomic trends in the Study Area for the past twenty years. The data reveal that this neighborhood has been in a state of decline for many years.

Social Characteristics

The Study Area population is predominantly African-American, representing ninety (90) percent of the population in 2000. This has changed somewhat

since 1980, when seventy-five (75) percent of the Study Area's population described itself as African-American (See Table 1). Analysis of poverty indicators such as median age, income, and educational attainment indicates a neighborhood in decline. Median age in the Study Area has increased since 1980, though it is still much lower than Duval County as a whole. While median income in the county increased substantially between 1980 and 1990, median income in the Study Area declined. Additionally, the proportion of adults aged 25 and over who have completed high school and college is significantly lower in the Study Area than in Duval County.

North Riverside Racial Composition: 1990 & 2000



Educational attainment is one of the few social indicators that improved from 1980 to 1990, with the percent of adults aged 25 and over who have completed high school increasing from twenty-eight (28) percent to forty-two (42) percent. The percent of college graduates in the Study Area remained constant from 1980 to 1990 at two and one-half (2.5) percent.[i]

Table 1

Social Characteristics of North Riverside Study Area, 1980-2000

	1980 Census Tract 26	1980 Duval County	1990 Census Tract 26	1990 Duval County	2000 Census Tract 26	2000 Duval County	1990-2000 Percent Change Census Tract 26	1990-2000 Percent Change Duval County	1980-2000 Percent Change Census Tract 26	1980-2000 Percent Change Duval County
Total Population	5,559	571,003	4,846	672,971	4,475	778,879	-7.7%	15.7%	-19.5%	36.4%
Median Age	24.3	29	27.9	31.4	27.9	34.1	0.0%	8.6%	14.8%	17.6%
Average Household Size	3.12	2.81	3.05	2.54	3.03	2.51	-0.7%	-1.2%	-2.9%	-10.7%
Race										
Black	78%	25%	86%	24%	90%	28%	5.0%	16.0%	19.5%	11.3%
White	24%	74%	13%	73%	8%	66%	-41.4%	-9.9%	-67.4%	-11.1%
Other	0%	1%	0%	3%	2%	6%	243.2%	112.4%	628.2%	537.2%
Percent Female Householder, No husband present	41.2%	20.0%	50.3%	20.0%	59.6%	23.5%	18.5%	17.5%	44.7%	17.5%
Educational Attainment of Persons Aged 25 and Over										
Percent High School Graduates	27.5%	67.0%	42.1%	77.0%	53.0%	83.0%	25.9%	7.8%	92.7%	23.9%
percent bachelor's Degree or Higher	3.0%	14.0%	3.0%	18.0%	5.0%	22.0%	66.7%	22.2%	66.7%	57.1%
Percent of Persons Aged 16 and Over in the Labor Force	54.5%	63.0%	53.6%	70.0%	52.0%	67.0%	-3.0%	-4.3%	-4.6%	6.3%
Percent of Civilian Labor Force Unemployed	13.5%	5.6%	12.0%	6.0%	14.0%	5.0%	16.7%	-16.7%	3.7%	-13.8%
Median Income										
Adjusted to 1999$	$18,586	$34,283	$16,089	$45,068	$19,637	$40,703	8.6%	-9.7%	5.6%	18.7%
Percent of persons below Poverty Level	42.4%	18.0%	40.5%	13.0%	43.0%	12.0%	6.2%	-7.7%	1.4%	-25.0%

Source: U.S. Bureau of the Census

*Family Type by presence of own children. This category identifies households with dependent children

**2000 data not yet available for all indicators.

The proportion of persons in the Study Area living below the federally defined poverty level in 1990 was forty-one (41) percent, more than three times the rate of poverty in the county as a whole. The percent of unemployed persons in the Study Area in 1990 was twelve (12) percent, twice that of Duval County, while the median income[ii] of the Study Area was less than half that of Duval County.

The presence of female-headed households is an important indicator of socioeconomic stability in a neighborhood. From 1980 to 2000, the Study Area experienced a forty-five (45) percent increase in the percent of female-headed households. This is nearly three times the rate of increase for Duval County.

Populations with high proportions of dependent persons, typically persons under 18 and over 65, are associated with higher rates of poverty since these results in a smaller work force. In 2000, nearly one-third of the Study Area population was under 15, compared with twenty-two (22) percent of the population in Duval County (see Table 2).

Table 2

Age Distribution, 1980-2000

Age	1980 Census Tract 26	1980 Duval County	1990 Census Tract 26	1990 Duval County	2000 Census Tract 26	2000 Duval County	Percent Change 1980 - 2000 Census Tract 26	Percent Change 1980 - 2000 Duval County
0-14	29.6%	23.0%	30.7%	22.0%	31.2%	22.1%	5.6%	-4.0%
15-24	21.6%	19.0%	15.4%	15.0%	15.7%	13.8%	-27.5%	-27.2%
25-44	19.9%	28.0%	26.4%	33.0%	26.5%	32.4%	33.0%	15.7%
45-64	18.5%	19.0%	15.5%	17.0%	16.6%	21.2%	-10.4%	11.5%
65+	10.4%	10.0%	12.0%	14.0%	9.4%	10.5%	-9.7%	5.0%

Source: U.S. Bureau of the Census

Employment

Occupations of Study Area residents are concentrated in Technical, Sales and Administrative Support, and Service occupations. More than half of the Study Area work force is employed in these categories (See Table 3). However, the work force in Duval County as a whole is concentrated in Technical, Sales, and Administrative Support, and Managerial and Professional Specialty positions. This indicates that Study Area residents tend to be employed in lower-paying occupations than residents countywide.

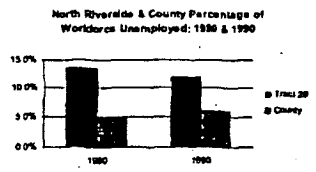


Table 3

Occupations & Selected Industries, 1980-2000

	1980		1990		2000		1980-2000 Percent Change	
	Census Tract 26	Duval County	Census Tract 26	Duval County	Census Tract 26	Duval County*	Census Tract 26	Duval County
Employed Persons Aged 16 and Over	1,742	241,222	1,422	314,432	1,326	367,065	-23.9%	52.2%
As a % of Persons Aged 16 and Over								
Managerial & Professional Specialty	7.0%	23.0%	9.9%	25.0%	10.0%	31.7%	43.2%	37.9%
Technical, Sales & Admin Support	17.2%	35.0%	28.1%	37.0%	32.5%	32.3%	89.4%	-7.9%
Service	23.8%	13.0%	25.2%	13.0%	24.3%	14.1%	2.2%	8.8%
Farming, Forestry, & Fishing	3.4%	1.0%	2.1%	1.0%	0.0%	0.3%	-100.0%	-72.9%
Precision Production, Craft & Repair	12.1%	12.0%	12.4%	11.0%	8.7%	9.6%	-28.1%	-20.4%
Operators, Fabricators, & Laborers	36.6%	15.0%	22.2%	12.0%	24.5%	12.1%	-33.1%	-19.5%

Source: U.S. Bureau of the Census

**Data have not yet been released for 2000.*

Work Commute

Workers in the Study Area spend slightly more time commuting than workers countywide (See Table 4). The most common mode of transportation in the Study Area and the county is the private vehicle; however, Study Area residents are four times more likely to rely on public transportation as their primary mode of transportation to work.

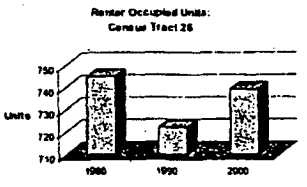
Table 4

Journey to Work & Commuting Time

	1980		1990		2000		1980-2000 Percent Change	
	Census Tract 26	Duval County	Census Tract 26	Duval County	Census Tract 26	Duval County	Census Tract 26	Duval County
Workers 16 Years and Over	1,684	250,332	1,375	333,152	1,269	374,292	-24.6%	49.5%
Mode of Travel to Work								
Private Vehicle	75.0%	87.0%	76.1%	90.0%	80.0%	93.0%	6.7%	6.9%
Public Transportation	12.0%	5.0%	11.6%	3.0%	11.0%	2.0%	-8.3%	-60.0%
Other Means or Work at Home	13.0%	7.0%	12.3%	8.0%	9.0%	5.0%	-30.8%	-28.6%

Source: U.S. Bureau of the Census

**Data have not yet been released for 2000.*



Population and Housing

The Study Area experienced a fourteen (14) percent decrease in the number of housing units and a twenty (20) percent decrease in population between 1980 and 2000 (See Table 5). This is contrary to Duval County, which experienced a forty-five (45) percent increase in housing units and a thirty-six (36) percent increase in population during the same time period. The Study Area has also experienced a seventeen (17) percent increase in vacant housing units since 1980. The decrease in total housing units and increase in the proportion of vacant units is indicative of deteriorating housing stock, demolition of housing and population loss in the neighborhood.

The proportion of owner-occupied housing units in the Study Area decreased twenty-nine (29) percent between 1980 and 2000 (refer to Table 5). Duval County, in contrast, experienced a forty-seven (47) percent increase in the proportion of owner-occupied housing units. The declining rate of owner-occupants and the increasing number of vacant units are indicative of a neighborhood that is shifting to a renter population and likely has a sizeable number of properties owned by absentee landlords.

Table 5

Housing Characteristics, 1980-2000

	1980		1990		2000		1990-2000 Percent Change		1980-2000 Percent Change	
	Census Tract 26	Duval County	Census Tract 26	Duval County	Census Tract 26	Duval County	Census Tract 26	Duval County	Census Tract 26	Duval County
Total Housing Units	1,971	227,077	1,787	284,673	1,700	329,778	-4.9%	15.8%	-13.7%	45.2%
Occupied Units	1,765	208,351	1,499	257,245	1,459	303,747	-2.7%	18.1%	-17.3%	45.8%
Vacant Units	206	18,726	288	27,428	241	26,031	-16.3%	-5.1%	17.0%	39.0%
Owner-Occupied Units	1,020	130,176	777	159,444	720	191,734	-7.3%	20.3%	-29.4%	47.3%
Percent of occupied units	57.8%	63.0%	51.8%	62.0%	49.3%	58.1%	-4.8%	-6.2%	-14.7%	-7.7%
Renter-Occupied Units	745	78,175	722	97,801	739	112,013	2.4%	14.5%	-0.8%	43.3%
Median Value of Owner-Occupied Units Adjusted to 1999$	$33,507	$73,899	$34,944	$85,747	NA	NA	NA	NA	NA	NA

Source: U.S. Bureau of the Census

***2000 data not yet available for all indicators.*

Data Limitations

There is one limitation to the data. The geographic area for which data is available is slightly larger than the Study Area. Despite this limitation, the data available are useful for assessing demographic and housing trends.

Existing Uses & Conditions

This section analyzes the results of the windshield survey, which was designed to inventory the existing land uses and building conditions in the area. Each parcel in the Study Area is assigned a land use and each residential and commercial use is assigned a condition. These results are presented in the following analysis, and the data is also displayed in Maps 1 and 2.

Typical bungalow home

An example of the more ornate architecture

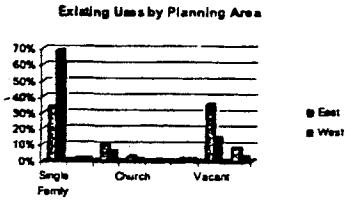
Over half of the parcels contain a residential use (57%), while nearly a quarter of the parcels are vacant (24%) (see Table 5). Additionally, there is a significant amount of commercial uses, which are concentrated around McDuff Avenue and Stockton Street. Most of the vacant properties are concentrated in the western portion of the Study Area, known as Mixontown. This area has enormous areas of vacant land, sometimes including an entire block. High concentrations of vacant land provide significant development opportunities for the future.

Table 6
North Riverside Existing Uses

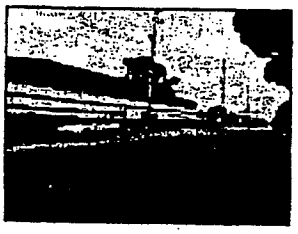
Single Family	52%
Multi-Family	2%
Commercial	14%
Church	2%
Public	1%
Parking	2%
Vacant	23%
Industrial	5%

Source: *Windshield Survey, 2001, Asset Property Disposition, Inc.*

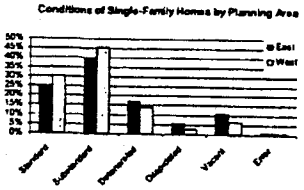
While the number of industrially related parcels is small (only 5%), industrial users typically require larger parcels so the land area is greater than what Table 1 indicates. Most of the industrial uses are along Edison Avenue and surrounding the railroad near McCoy's Creek Boulevard. Industrial uses in this area have created significant land use issues in terms of incompatibility. There are numerous residences directly adjacent to, and sometimes enveloped by, industrial uses, particularly near Edison Avenue and in the Mixon Town area. This presents environmental issues, as well, since there



Condemned Property



Industrial Uses



are some heavy industrial uses with noxious odors warning signs across the street from residential uses.

Churches are quite common throughout the Study Area, with some being historically significant. Most of the churches are located along major roadways, such as Edison Avenue or McDuff; although there are some churches located sporadically throughout the residential community. These are typically churches that have converted a single-family or commercial structure into a church.

Public owned property, such as parks and schools are very few, with the Forest Park Head Start Center as the only public property within the Study Area. There are no recreational opportunities within the Study Area.

Multi-family housing is extremely rare, which is surprising for declining neighborhoods. However, multi-family housing is not the only housing available to renters. Many of the single-family homes in the area have "for rent" signs on them.

Table 7 **North Riverside Existing Conditions**

	Standard	Substandard	Deteriorated	Dilapidated	Vacant	Error	Total
Single-Family	267	395	117	30	55	6	870
Mult-Family	8	13	2	1	3	0	27
Commercial	78	85	33	4	32	1	233
Total	353	493	152	35	90	7	1130

Source: Asset Property Disposition, Inc. 2001

Conditions were assessed for all residential and commercial structures (see Table 7). Most of the structures in the Study Area are in below standard condition. Since multi-family structures represent a very small percentage of the overall land uses, this analysis and the actual Neighborhood Action Plan will focus on the single-family homes and commercial structures.

Substandard conditions are the most common category, representing approximately 45% of the structures surveyed. However, there is a significant portion of vacant and abandoned buildings. Approximately 20% of the single-family homes are vacant, and about 8% of the commercial buildings are vacant. A visual survey indicates that the structures in the deteriorated and vacant categories are concentrated near industrial uses or in the Mixontown area and analysis of the parcel data confirms this. The east planning area, or Mixon Town, has significantly more vacant lots than the west planning area, and significantly less single-family homes. The east planning area has many large industrial businesses. The east planning area also has a more deteriorated housing stock, with a larger percentage of

deteriorated, dilapidated, and vacant single-family homes than the west planning area. The northern area is predominately industrial in land use, with the exception of a large public housing complex, Hollybrook Homes (see Map 1).

The existing uses in this neighborhood present four major issues:

- Adjacent incompatible uses;
- Large rental community in single-family homes;
- Large tracks of vacant land within the Mixontown portion, which suggest more of a redevelopment strategy rather than a revitalization and rehabilitation strategy; and
- The northern planning area provides the community with a strong business nucleus that could be capitalized on as a financing strategy.

Recent & Proposed Development

There are numerous projects that will influence the future strategies for the revitalization of the North Riverside Neighborhood. These projects/developments are described below:

Head Start Center located on Superfund Site

The Forest Street Superfund Site

This site is a federally designated superfund site. The site was historically a City incinerator, and has produced ash contamination that covers the east planning area of the Study Area, as well as McCoys Creek. A Head Start Center is currently occupying the actual ash site on Forest Street. The Solid Waste and Resource Management Department is currently working with the Environmental Protection Agency (EPA) to test the area and then recommend remediation. However, remediation is not expected to occur for another two years, and building permits must undergo review by the EPA.

The I-95/I-10 Interchange

This interchange will occur along the eastern boundary of the Study Area, and will provide ramps to Forest Street and Edison Avenue. This interchange is currently under construction, and will substantially increase access into the area.

McDuff Avenue Improvements

McDuff Avenue has an average 15,000 trips per day, and has a mix of residential, commercial, and public uses. The roadway infrastructure is

Issues:

- Poor housing conditions;
- Significant loss of homes, with only Habijax homes as new development;
- Mixon Town area is a contaminated ash site;
- High amount of renters, but low amount of multi-family;
- Infrastructure improvements are planned for McDuff Avenue; and
- Many incompatible uses throughout the neighborhood.

aging, and the buildings are in a state of decline. The proposed improvements will occur from Roosevelt Boulevard to Beaver Street, and will include roadway repaving, curb and gutter, and turn lanes. The Request for Proposals has been advertised and the project currently has a construction completion date of 2005. The program budget is $11 million.

Retention Ponds

Three retention ponds are currently under consideration for the McCoy's Creek Boulevard area. These ponds are intended to relieve some of the flooding that is currently taking place near the Cherokee Street and McCoy's Creek Boulevard intersection. These ponds are also addressed in Section 6 of this Plan.

Habitat for Humanity

Habitat for Humanity, or Habijax, is currently the only housing developer constructing homes in the North Riverside Study Area. Habijax has developed approximately 39 homes in the area to date.

Conclusions

The following conclusions can be deducted from the demographic and survey information provided above:

- Housing conditions are in poor condition, with the worst conditions concentrated in the eastern portion of the Study Area, commonly referred to as "Mixon Town." This area is located east of Osceola Street in the North Riverside Neighborhood.
- Habijax homes, located throughout the Study Area, represent the only new residential construction. The homes, while an improvement over vacant lots, will likely impact the neighborhood's ability to attract higher income residents;
- There is a high amount of renters located throughout the Study Area, and since there are not many multi-family units, the majority of renters are residing in single-family homes owned by investors. Given the overall housing conditions of the neighborhood, the investor-owners are likely to be absentee owners using property managers to oversee the properties.

- The North Riverside Neighborhood will be experiencing a great deal of infrastructure improvements along McDuff Avenue and with the construction of the I-95 and I-10 interchange. These improvements can either provide a catalyst towards redevelopment or further divide the North Riverside area from the Downtown area.

- The EPA Superfund Site greatly hinders any development west of Osceola, particularly residential development.

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[i] Data from the 2000 Census for economic indicators are not yet available.
[ii] Median income data were adjusted to 1999$ using the Consumer Price Index.

Section 3
Community Participation

Introduction

Engaging residents, businesses and other stakeholders is vital to any successful neighborhood revitalization effort. Meaningful citizen participation within neighborhood planning initiatives builds partnerships between local government and resident groups and serves as a mechanism for stakeholder empowerment. The residents, business leaders, and other stakeholders have cooperated in the creation of this neighborhood action plan since the initiation of the planning process, providing valuable insight and guidance. The first community meeting provided survey results that outlined the focus of the Plan. Two sessions were also held to define the "visions" of the North Riverside Community Development Corporation. Additional workshops were held with area business leaders. This section outlines the results of the initial strengths and weaknesses survey along with the visions of the community association and results from the business leaders' survey.

The North Riverside Community Development Corporation...

- Provided the Consulting Team with the primary source of resident participation;
- Administered a SWOT survey to the residents;
- Made the Plan a part of the agenda for their regular meetings; and
- Organized business leader workshops for the Plan.

Community Meeting Survey

The Planning Team hosted an introductory North Riverside Community meeting on September 19, 2001, to inform residents about the neighborhood revitalization initiative and to gather input from members of the North Riverside Community Development Corporation, the resident group advising the Planning Team during the neighborhood planning process. The Planning Team used surveys and visioning sessions to gain input from the residents and other stakeholders of North Riverside. The Planning Team administered a Strengths-Weaknesses-Opportunities-Threats (SWOT) survey to residents who attended this session. The purpose of the SWOT survey was to assess the community's assets and constraints from the resident's perspective. The results of the SWOT survey provided the Planning initial data regarding the needs of the community. The following is an analysis and summary of the SWOT survey results.

Playground that floods, making it unusable

Strengths

The most frequently cited strength of North Riverside was the strong community organization, the North Riverside Community Development Corporation, which operates within the neighborhood. North Riverside's location, particularly its proximity to downtown and I-10 was also noted as a major strength.

More than half of the strengths that were cited for the area were primarily associated with social capital, including strong businesses, churches, a new health center and police substation. These answers indicate a strong sense of community and resident cohesion.

Weaknesses

Drugs and prostitution were two of the most frequently cited weaknesses of North Riverside. Other issues included the lack of a community center, abandoned cars, older houses that need repair, and the blocking of streets by rail cars.

McCoys Creek flooding and contamination was a major concern for the residents. The flooding is particularly serious in the McDuff Street and Stockton Street area of the neighborhood near the northern portion of the Study Area, and residents reporting stalled vehicles in the roadways and standing water in their yards. Contamination is also a major issue, particularly with the Forest Street Superfund ash site.

Crime is a major concern for the residents of North Riverside. The residents are particularly concerned about the small commercial corner stores in the neighborhood because they "are just areas for drug dealers to hang out" and do not sell neighborhood commercial goods.

Opportunities

Residents cited the strong business community in the area, areas for housing and street improvements, a playground, and the health center as the major neighborhood opportunities. The business community is comprised of primarily industrial and light manufacturing businesses. Neighbors also noted the opportunity for housing improvements in the area.

Threats

The threats that residents cited mirror the weaknesses with the Forrest Park Superfund site being the most common. The redevelopment of the site and the areas surrounding the site is a significant concern of the community.

Most of the other threats residents cited were crime related, with prostitution and drugs frequently listed.

Visioning Sessions

McCoyrs Creek

Two workshops were held to define a vision for the future of the North Riverside Neighborhood. In these sessions, residents were given the opportunity to further discuss their concerns and offer their suggestions for the determination of redevelopment strategies for the area. The visioning exercise enabled the residents to geographically show the Planning Team the issues affecting the community and the areas that they would like to see redeveloped. The first session was held on November 19, 2001, at Gateway Community Services Center. Participants at this session discussed issues they felt were important. The following issues were discussed:

- McCoys Creek and Forest Street Superfund site
- Lack of a Community Center

Another neighborhood visioning session was held on December 3, 2001. Members of the North Riverside Community Development Corporation were presented data the Planning Team collected.

The neighbors discussed their concerns and desires for future development. Discussion revolved around issues such as the development of a community center, improvement of homes in the neighborhood, as well as future developmental impacts such as the I-10/ I-95 interchange and land contamination. Residents listed the following as issues that should be considered for revitalization strategy development:

- Continue streetscape improvements on Edison Ave & Forrest when the Interstate work is done;
- Smaller Stores – (Dollar Store);
- Co-locate the Park and Community Center/ Head Center; with the historic school in the area as a possible site;
- Suggestions for playground – tennis courts, basketball courts, skating, dirt bike track, and a pavilion with concrete tables and chairs;
- Concerns about McCoys Creek related to the cleanup (ash removal), cost, and redevelopment of the site. Creek flooding was also raised as a concern;
- Substandard housing stock- residents expressed interest in ways to improve the housing stock;

Crystal Street

- Possible renter to ownership opportunities for residents in the rental homes;
- The houses on Crystal Street were noted as preferred housing styles;
- Inadequate street lighting;
- Need for improved code enforcement; and
- There is a need to attract people to the neighborhood after work hours– the neighborhood becomes a "ghost town" after 6:00pm.

Business Leaders' Workshop

A workshop was held with representatives from area businesses on December 13, 2001. The purpose of the workshop was to inform the business community about the neighborhood planning process occurring in the neighborhood and to encourage their involvement. The business enterprises play a major role in the economic development of North Riverside through the employment of area residents. Neighborhood concerns were discussed and their perspectives were recorded through the distribution of a business leader's survey.

The results of the Business Leaders Survey reveal that most of the businesses are located along Edison Avenue and Stockton Street. The area businesses are typically manufacturing, wholesale/ retail, mechanical repair, and contracting operations. Half of the respondents indicated that their businesses employ between 50-99 persons, with most employees working in skilled and semi-skilled positions. Most respondents reported that some of their employees live in the North Riverside neighborhood. When asked about the most important assets of the area where their business is located, business leaders cited location, particularly access to I-95 and I-10, as a major asset of the area. Overall, respondents indicated a belief that new businesses would be interested in moving into the North Riverside Area. They named the following as factors that may attract new businesses to the neighborhood:

- Location
- Affordability
- Close Proximity of Suppliers
- Good business environment

The business leaders also reported problems within the area where their businesses are located. Respondents named the following as concerns:

Business Leaders and Community Residents BOTH agreed on similar issues regarding the community....

- Contamination
- Crime
- Infrastructure
- Housing
- Need for Jobs & Economic Development

- Poor infrastructure- electrical and drainage
- Flooding
- Crime- drugs and prostitution
- Lack of security (police presence)
- Contamination- McCoy's Creek

Respondents indicated the following as projects they would like to see completed in the area surrounding their business:

- Elimination of Flooding
- Crime Reduction
- Clean up of McCoys Creek
- Infrastructure Improvements- lighting and drainage
- Improvement of older homes
- Streetscape

Conclusions

Residents and business leaders generally outlined similar concerns when surveyed. Based on the input they provided, the neighborhood action plan strategies should address the following:

- Housing
- Infrastructure
- Economic Development

The community also expressed concerns about environmental issues, particularly the contamination of McCoys Creek. The clean up of McCoys Creek is an issue that is currently being addressed through formal processes outlined by the Environmental Protection Agency and may require additional action before cleanup can begin.

Residents and business leaders also cited crime as an issue. The criminal activity in the neighborhood may be linked to the vacant and abandoned structures in the area. Addressing housing and infrastructure needs and improvements combined with increasing employment opportunities may have an indirect impact on the crime rates in the area.

Section 4
Housing Strategy

Home developed by Habiiax

Introduction

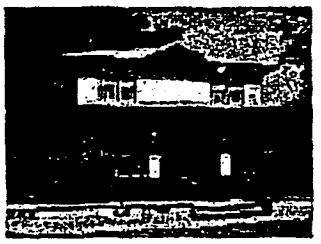
North Riverside developed as a residential neighborhood that was an extension of the Riverside area, but has been inundated with industrial and commercial uses since the construction of Interstate-95. Many of the homes are frame vernacular or bungalow, with some shotgun homes as well. These homes were built for the workers of the surrounding industrial areas. Currently, the housing stock, although strong, is in a state of decline. This section outlines the housing strategy for the area. The housing strategy takes a prioritized targeted approach to rehabilitation of vacant and abandoned homes in the area.

Overall Housing Strategy

Existing home

The North Riverside community has experienced significant loss of its housing stock along with an increase in vacant units. These factors, coupled with a large percentage of lower income residents, demonstrate the need for an affordable housing strategy in the North Riverside Neighborhood. The residents of North Riverside are dedicated to neighborhood revitalization and desire to maintain and improve the residential character of the community; therefore the housing stock is a valued resource. The rehabilitation of the housing units will serve as a stabilizing tool that will decrease neighborhood decline, attract new residents to the area, and build on the strengths of the neighborhood.

The City should consider providing incentives such as financial and technical assistance to developers interested in rehabilitation of concentration on housing rehabilitation in North Riverside because there are few vacant parcels available for new construction, and a substantial amount of substandard or dilapidated structures. Habijax is a non-profit developer in the area that is concentrating on new construction within the neighborhood. The residential areas of the Study Area contain a housing stock that requires some repairs and rehabilitation therefore, the proposed housing strategy places an emphasis on:



Existing home

- Acquisition and rehabilitation of vacant single-family homes;
- Rehabilitation of owner occupied single family homes; and
- Providing homeownership opportunities to renters.

Housing Opportunity District & Demonstration Block Strategy

Using a prioritized target approach to affordable housing rehabilitation and development would create a larger impact for the neighborhood. The proposed target area, Housing Opportunity District, was selected based upon the evaluation of the existing conditions of the neighborhood. Demonstration Blocks were selected using the following criteria:

- Proximity to Mc Duff and Edison Avenues
- High % of vacant lots
- High % of vacant and abandoned homes
- High % of substandard or dilapidated homes
- Infrastructure needs (i.e. curb and gutter)

The proposed Housing Opportunity District (HOD) is bounded by McCoys Creek Boulevard to the north, Edison Avenue to the south, Nixon Street to the East and Mc Duff Avenue to the West (See maps 3 and 4). The HOD contains 447 parcels. The HOD is primarily single-family uses, with the exception of Edison Avenue and McDuff Avenue and contains 75 parcels of developable vacant land. The HOD also contains a substantial amount of substandard housing (see tables below).

Table 8

Parcels by Use in the North Riverside Housing Opportunity District

Multi-family	Vacant	Single Family	Church	Commercial	Parking	Public Buildings	Total
9	75	324	8	27	3	1	447

Table 9

Housing Conditions and Tenure in the North Riverside Housing Opportunity District

	Standard	Substandard	Deteriorated	Dilapidated	Vacant/Boarded	Total
Multi-family	3	4	1	0	1	9
Single Family	68	156	65	12	23	324

Rendering of streetscape

Rendering of a renovated home

The proposed Housing Opportunity Demonstration Block (HODB), which would launch the rehabilitation program in the North Riverside area, is bound by Dignan Street to the north, Edison Avenue to the south, Cherokee Street to the east and Mc Duff Avenue to the west (see Figures 1-4 for existing conditions). The HODB is recommended for the area because it can build on the momentum of other initiatives such as the Town Center concept being proposed for the McDuff Corridor and the industrial expansion proposed for the area east of Osceola Street (see map 5). Additionally, the area is located away known contaminated sites in the eastern portion of the neighborhood.

It is also recommended that infrastructure improvements be completed through the Housing Opportunity District. Much of the North Riverside neighborhood lacks curb and gutter, adequate lighting, and landscaping. Infrastructure improvements would improve the quality of the neighborhood, and would increase the likelihood of attracting new residents to the area. Figure 6 displays a plan view of the HODB improvements and Figures 7 and 8 display a street perspective of the how the area would look after construction is complete.

In addition to the housing component, the HODB also contains a small corner store. This store should also be restored to provide a viable commercial business to the community (see figure 9).

Acquisition and Rehabilitation

Approximately 20 percent of all single-family homes in the Study Area are vacant and abandoned. The vacant and abandoned structures pose problems for the residents of the neighborhood. In addition to the visual blight of the area with litter and other debris, the abandoned structures typically become havens for criminal activity such as prostitution and drug use. Renovation of the vacant and abandoned homes creates opportunities of homeownership. The newly renovated properties would also preserve the housing stock. The table below reflects a cost estimates for the proposed acquisition and rehabilitation program.

The cost of renovation of a vacant single-family property is approximately $87,950. The renovation costs are based upon the square footage of a home. Single-family houses are approximately 880 square feet on average. Renovations usually involve making additions to the homes, thereby increasing the square footage to approximately 1200 square feet. The

Table 10
Project Cost Using Proposed Acquisition & Rehabilitation Model, 2003 Dollars

	Average Per Unit	Entire HOD 23 Units	HODB 3 Units
Acquisition Costs	$18,250	$419,750	$54,750
Hard Construction Costs	$51,600	$1,186,800	$154,800
Soft Construction Costs	$18,000	$414,000	$54,000
Total Construction Costs	$87,950	$2,022,850	$263,850
Appraised Value	$70,000	$1,610,000	$210,000
Estimated Developer Gap	$17,950	$412,850	$53,850

Habijax home

appraised value is assumed to be slightly less than a newly constructed home, which is typically $80,000. The estimated developer gap is approximately $17,950, which would have to be subsidized. The number of units for each Housing Opportunity District (HOD) and Housing Opportunity Demonstration Block (HODB) is based on the actual number of vacant and abandoned properties, with twenty-three (23) and three (3) respectively.

The North Riverside neighborhood also contains a large proportion substandard and deteriorated owner-occupied homes that could also benefit from rehabilitation. The cost assumes a maximum of $35,000 per unit. The estimates are based on the number of substandard, deteriorated, and dilapidated units in the HOD, two hundred thirty three (233) and HODB with forty-nine (49). The estimates for owner occupied rehabilitation are reflected in Table 11 below.

Fifty-one percent of the residents in North Riverside are currently renting their homes.

Table 11
Project Cost Using Occupied Rehabilitation Model

	Maximum Cost Per Unit	Entire HOD 233 Units	HODB 49 Units
Rehabilitation Costs	$35,000	$8,115,000	$2,065,000

Lease to Purchase Program

Approximately fifty-one (51) percent of the occupied housing units of census tract 26 are occupied by renters. The declining rate of owner occupants coupled with the increasing number of vacant units reflects the likelihood of properties being owned by absentee landlords. Such properties are poorly maintained and rapidly deteriorating. The vacant structures tend to become havens for criminal activity.

Providing increased homeownership opportunities is a way to improve the North Riverside Community as a whole because it promotes investment within the community. Homeowners are often considered vested stakeholders, because of their commitment to their property. Therefore, it is recommended that the City implement a Lease to Purchase Program.

The proposed Lease to Purchase Program offered by Freddie Mac can provide the following:

- An opportunity for renters to become homeowners; homeownership can serve as a stabilizing factor for communities, because the owners invest in the community through the maintenance and upkeep of their property;
- Protection for lenders from foreclosure; and
- A mechanism to address relocation that may occur as a result of industrial expansion. The program can provide residents the opportunity to locate to an improved home within the neighborhood for residents that would not qualify for a conventional mortgage.

Through the lease to purchase program, prospective homebuyers, called lease purchasers, select a home and a local non-profit corporation buys the home on their behalf. The non-profit serves as the initial owner, mortgagor and property manager for the lease period, which is approximately three years. At the beginning of the lease, the lease-purchaser pays an administrative fee to the non-profit (typically one percent) and the first month's lease payment.

During the lease period, the agency works with the lease purchaser to ensure they are ready to assume the loan at the end of the lease period. This assistance includes participation in a homebuyer education and financial and debt management counseling.

After demonstrating the ability to make timely lease payments to the agency, the lease-purchaser buys the home by assuming the unpaid principal balance of the mortgage. The down payment may be granted from the agency at assumption, providing a no-down-payment mortgage. The lease purchaser also takes advantage of the equity build up that occurs during the lease period.

The Lease to Purchase program functions using a six-step process that includes:

- Selection of a non-profit public agency to administer the program
- Identification and selection of a master loan servicer
- Obtaining the required credit enhancements and insurance
- Prequalification
- Homebuyer education
- Mortgage assumption at end of leasing period

A complete description of the process and program criteria is located in Appendix A. .

Program Benefits

The Lease to Purchase Program offered by Freddie Mac provides the following benefits:

Housing Strategy to include...

- Occupied Rehab
- Rahab & Sale of Vacant & Abandoned Homes
- Lease to Purchase Program

- Individuals or families with adequate income to support a mortgage payment can move into a home of their choice immediately rather than wait until cash or credit issues are resolved;
- No down payment from the participating household is required, either at the time the individual or family moves in or at the time the loan is assumed. The down payment may be granted from the agency;
- Equity will accrue for the participating household from the inception of the lease period;
- Individuals or families can establish credit or restore a blemished credit record during the lease-purchase period;
- Provides financial benefit of low-cost Freddie Mac conventional mortgage financing to lease purchasers who might have faced more costly financing choices if they were purchasing the home outright;
- Local housing agencies can sponsor a new approach to mortgage finance which does not require local or federal housing subsidies (e.g. HOME or CDBG);
- Lenders are able to retain customers who would not normally qualify for a loan due to impaired credit or insufficient cash; and
- Homebuilders and real-estate professionals can access a larger pool of prospective clients.

A Lease to Purchase Program will help curb any displacement that could occur due to community revitalization. While property values will not likely rise to cause displacement, the rental population could be forced to leave as property owners begin renovations or begin selling their properties. A Lease to Purchase Program will enable eligible renters to take ownership in the neighborhood and contribute to its stability.

Recommendations

- The City should consider providing incentives such as financial and technical assistance to developers interested in rehabilitation of vacant single-family homes in the area.

- The targeted approach of the Housing Opportunity District strategy should be considered for housing rehabilitation in the neighborhood. Targeting revitalization efforts to a specified area will warrant a larger impact on North Riverside because the rehabilitation of the homes would be concentrated and coordinated.

- It is also recommended that infrastructure improvements be coordinated with the development of the Housing Opportunity District. Much of the North Riverside neighborhood lacks curb and gutter, adequate lighting and landscaping. Coordinating infrastructure improvements with housing redevelopment would greatly improve the quality of life for the residents of the area.

- The City should consider implementing a lease to purchase program as a means to promote increased homeownership opportunities within the neighborhood. The program can also serve as mechanism to address relocation that may occur as a result of industrial expansion.

Section 5
Economic Development

Introduction

The Business Leader's workshop held on December 13, 2001 yielded important information regarding the assets and constraints of the North Riverside Neighborhood in terms of business development. There are numerous successful businesses in the area, primarily heavy commercial and light industrial related businesses, and the North Riverside Community Development Corporation has developed a strong working relationship with the businesses. Given that the business community is strong and willing to work with the neighborhood towards revitalization, this Plan is using this asset as a catalyst for economic development. This Section outlines the strategy that will be used to develop more business opportunities, infrastructure funding, and job creation for the local residents.

Creating an Urban Industrial Park

Large tracts of vacant land

An expanded urban industrial park is recommended for the area east of Osceola Street (see Maps 6 & 8). This area has a mixture of industrial and residential uses, as well as a substantial amount of vacant land. Historically, residential development in this area occurred near the industrial businesses, and occupied by those employed by the businesses. These residential structures are very simple, with frame vernacular or shotgun homes as the dominant style. Currently, the housing stock is deteriorating, with this area having more deteriorated, dilapidated, and vacant housing than the west planning area.

There are numerous land use conflicts throughout this area, with many residential properties located directly adjacent (some within two feet) to industrial uses. Visits to these sites by the Planning Team confirmed that residents of these homes are often subjected to loud, continuous noise from the adjacent businesses, as well as noxious odors from industrial chemicals. Large trucks are frequently parked along the roadways in front of residential homes, essentially forcing residents to view a truck for hours at a time. Given the deteriorating condition of the residential properties and the impacts of the industrial businesses, the quality of life in this area is diminishing rapidly.

The Forest Street Superfund...

- Essentially will hinder any residential development until clean-up is complete
- Creates a perception of contamination that will hinder housing sales

In addition to the deteriorating quality of life for residents and the availability of vacant land, there are other important factors that will impact industrial expansion:

- **The Forest Street Superfund Site** is an ash site that is currently being used as a Head Start Center. The impacts of the site extend throughout the entire east planning area. The Solid Waste and Resource Management Department is currently working with the Environmental Protection Agency (EPA) to test the area and then recommend remediation. However, remediation is not expected to occur for another two years, and building permits for the area must undergo review by the EPA. Currently, the only residential developer in the North Riverside neighborhood is Habijax, and they are unwilling to develop in this area, regardless of approval from EPA. Therefore, residential development in this area is not likely until a full remediation is completed.

- **The I-10/I-95 Interchange** is currently under construction. This interchange will bring both interstates access to the east planning area. The interchange will provide exits to both Forest Street and Edison Avenue, and will substantially improve truck access for industrial businesses.

- **Relocation** will be sensitive issue, since most residents in the area are renters. Renters typically do not have much protection when forced to move by private acquisition, and many of the rental properties in this area are very inexpensive so residents might encounter difficulty in locating similarly priced housing elsewhere. However, if the City is involved in the property acquisition, renters will be protected with rental subsidies for five years under the Federal Relocation Act. The City will also be able to direct the residents to other options, such as lease to purchase programs.

- **The Brownfields Program** will be a major tool for redevelopment in this area, largely until the sites are completely remediated. Developers will be reluctant to come into the area, but might consider the area if cleanup funds were available. Focusing funds towards redevelopment for industrially related projects would allow the North Riverside are to be a participant in the City's Brownfields Project.

- **Enterprise and Empowerment Zones** provide significant tax incentives to businesses that locate within the boundaries. The North Riverside Neighborhood is within both boundaries, and new businesses that locate in the area or existing businesses that expand in the area will be eligible for

A CRA Designation would allow the City to...

- Assemble Land for private development
- Use Tax Increment Financing for infrastructure improvements

tax incentives. Many of these incentives are attached to hiring requirements that would benefit the existing residents.

Industrial expansion for this area is strongly supported by the members of the North Riverside Community Development Corporation. However, there are many residents currently residing in the proposed expansion area. The housing strategy outlined in Section Four should focus on relocating residents to the residential portion of the Study Area.

Additionally, many of the businesses currently employ residents of the Study Area. However, there are also some businesses that actually schedule work hours so their employees can leave the area before evening hours due to the perceptions of the area being unsafe, and do not hire within the neighborhood. Therefore, the City has the opportunity to tie development incentives to employment opportunities for the existing residents.

Creating a Community Redevelopment Area

A Determination of Necessity Study is recommended for the proposed Urban Industrial Park Area (refer to Map 8) as pursuant to Chapter 163 of the Florida Statutes. This Study is a prerequisite for the establishment of a community redevelopment area (CRA). A CRA would allow the City to assemble property through the right of eminent domain and turn that property over to a private entity for redevelopment. This strategy is recommended for the portion of the Study Area that is east of Osceola Street for the purpose of industrial expansion.

There are some residential properties scattered throughout the proposed urban industrial park, with many vacant parcels that appear to have been platted for residential use or were at one time residential use. Therefore, since many of these parcels are small in size for industrial use, property assemblage will be a major task in the redevelopment of this area. Eminent Domain will be a necessary tool of land assembly.

A Determination of Necessity Study analyzes the current conditions of the proposed areas using established criteria outlined in Chapter 163, FS. The criteria include such conditions as multiple land owners, blighted and unsafe building conditions, and a general lack of infrastructure. Given the current conditions of the proposed area for the Urban Industrial Park, the Determination of Necessity Study would be a promising beginning towards the establishment of a Community Redevelopment Area.

Creating a Business Improvement District

Much of the industrial area is seriously deficient in infrastructure. Many business owners stated that the lack of infrastructure and the aging existing infrastructure are significant impediments to the daily operations of their companies. The proposed urban industrial park will need large-scale infrastructure improvements, and the creation of a Business Improvement District (BID) could be a financing strategy for these improvements.

A BID would allow the existing and new businesses to use the City's tax process to assess themselves an additional tax that would be managed and allocated for projects by those who pay the assessment. The BID would act as a funding strategy for the CRA. Since this strategy requires obtaining support from property owners, and the area business owners have been active participants in the revitalization of the community, it is likely that the BID would be a viable funding strategy for the CRA.

Recommendations

- The City should consider creating an urban industrial park that would include the existing industrial sector, as well as all property east of Osceola Street.
- The City should consider creating a Community Redevelopment Area (CRA) and a Business Improvement District (BID) for the urban industrial park to fund infrastructure projects and to allow the City to obtain the right of eminent domain for the purpose of assembling property for industrial use.
- The City should use financial incentives to encourage business owners to hire from within the neighborhood.
- The City should link the proposed housing strategy in Section Four of this Plan with a focus of relocating the existing residents within the proposed urban industrial park should displacement occur.

Section 6
Infrastructure

McDuff Avenue:

Introduction

North Riverside is an urban core neighborhood with significantly aged and deteriorated infrastructure. Neighborhood residents and business leaders cited poor lighting and drainage as major neighborhood issues in a survey of area strengths and weaknesses. McCoys Creek flooding and contamination were major concerns for the residents. The flooding is particularly serious in the McDuff Street and Stockton Street area of the neighborhood near the northern portion of the Study Area, and residents have reported stalled vehicles in the roadways and standing water in their yards. The North Riverside community also lacks sidewalks, curb and gutter, as well as speed limit signs along McDuff Avenue.

The North Riverside neighborhood has a significant amount of commercial uses concentrated around McDuff Avenue and Stockton Street. The neighborhood also contains industrially zoned areas that house many area businesses. A windshield survey of area conditions for residential and commercial structures revealed most of the structures in the Study Area are in below standard condition and there is a significant portion of vacant and abandoned buildings. Approximately 20% of the single-family homes and about 8% of the commercial buildings are vacant. Deteriorated and vacant categories are concentrated near industrial uses or in the Mixontown area.

When assessing all of the infrastructure needs the following conditions are found:

- Poor drainage
- Poor lighting
- Lack of curb and gutter
- Lack of sidewalks
- Lack of speed limit signs along Mc Duff

Each of these infrastructure issues is critical in shaping the character and quality of the neighborhood, as each contributes to the safety and well being

Town Center Initiative Phases:

- Phase I: Community Planning
- Phase II: Design & Engineering
- Phase III: Construction

of area residents. Therefore, making improvements to the aging infrastructure will greatly impact the neighborhood. The Town Center Initiative would be a useful tool to aid in the revitalization of North Riverside because the area has a significant commercial area located on a major thoroughfare with significantly aged and deteriorated infrastructure.

Neighborhood Corridors

North Riverside has two major neighborhood corridors: McDuff Avenue, with primarily commercial uses, and Edison Avenue, with a mix of residential, commercial, and light industrial uses. Both Corridors provide entrances to the community, and each has a variety of historically and architecturally significant buildings (see Figure 10). The intersection of these corridors, in particular, is the most visible area, and the redevelopment of the intersection could provide a much-needed catalyst toward the revitalization of the McDuff Avenue business district (see Figure 11).

It is recommended that the redevelopment of the McDuff Avenue and Edison Avenue intersection integrate the renovation of the existing buildings and the new construction of architecturally compatible buildings. The use of awnings along the McDuff Avenue corridor would bring the scale of the street (a busy two lane collector road) to a neighborhood level while adding color to the district.

The revitalization of the Edison Avenue corridor should concentrate on preserving the mix of land uses, while improving the aesthetic look of the area (see Figures 12 and 13). Streetscape improvements should include landscaping, brick pavers at intersections, and historic lighting to supplement the existing lighting. McDuff Avenue is discussed below.

Neighborhood Park

The City is currently planning the construction of two retention ponds north of McCoys Creek Boulevard on the east and west side of Smith Street. These ponds are intended to reduce the flooding of McCoys Creek. A third pond is also planned for the park area that is located between Cherokee and Sunshine Streets (see Figure 13). This pond will encompass the majority of the park, including the existing tennis courts. It is recommended that any pond improvements to the existing park area include park amenities, such as a gazebo, lighting, landscaping, and a walking trail. This would enable the

community to use the pond as a park amenity and provide the community with a focal point for revitalization.

Town Center Initiative

The City of Jacksonville has a neighborhood revitalization grant program known as the Town Center Initiative. The Town Center Initiative aims to revitalize older neighborhoods by providing planning, design and infrastructure improvements to public spaces along key business areas and corridors. The goals of the initiative are to:

- Enhance both the visual appeal and physical infrastructure in older neighborhoods' commercial areas and corridors;
- Feature community visioning and planning;
- Encourage public/private partnerships;
- Leverage public dollars by coordination with the Better Jacksonville improvements in the areas; and
- Encourage renewal of old commercial areas which in turn will aid and serve the residential uses.

The Town Center Initiative is a three-phased program that includes the development of a vision plan, design and engineering work, followed by implementation. The first phase of the grant program provides for a vision plan. Several activities can be conducted during the visioning phase. Activities include:

McDuff Avenue

- Defining geographic area for improvements
- Defining building guidelines, landscaping plans and considerations
- Developing renderings of the proposed improvements
- Providing estimated costs (initial estimates)
- Connecting the vision plan with other planning initiatives and funding
- Defining a schedule for implementation
- Identifying key participants that will be involved in the implantation and defining the roles and contributions of each

The second component involves the design and engineering work needed to develop a construction bid package designed to implement the vision plan. The implementation phase includes the completion of the infrastructure improvements.

Eligibility

Neighborhood organizations, civic and business associations are eligible to apply for the grants available through the Town Center Initiative. Neighborhood organizations and civic organizations must have a person responsible for managing funds, as well as a bank account and tax identification. Business associations must be recognized as a registered business by the City. Additionally, the organizations must be incorporated in order to apply.

Commercial areas of neighborhoods as well as highway corridors containing commercial areas that are 30 years or older and experiencing decline are eligible for grants offered through the Town Center Initiative. Highway corridors must be classified as a collector or higher roadway.

Proposed Town Center Area

The proposed location for the Town Center is along McDuff Avenue from Fitzgerald Street to Interstate 10. McDuff Avenue satisfies the following Town Center program requirements:

- It is an aging commercial corridor that is older than 30 years;
- It is a two-lane collector road that is an entrance into the community;
- The area has an existing business community; and
- The area is declining, and has substantial impacts on the North Riverside community.

McDuff Avenue has the following issues that would impact its redevelopment:

- The street is an entrance to the community, and is also a major access road to I-10;
- The street has existing businesses that are involved in the community;
- The street has many historically significant buildings;
- There is a homeless shelter along the Corridor; and
- The area is in close proximity to the Riverside/Avondale Historic District.

The Town Center Initiative would give this area a considerable boost in the revitalization of the area. The McDuff corridor also borders the Housing Opportunity District (HOD) and could build upon the momentum of proposed housing improvements within the area. Combining the efforts to the Town Center Initiative and the targeted rehabilitation and development housing

strategy would provide for coordinated revitalization of the neighborhood because housing, commercial, and infrastructure improvements could be addressed simultaneously.

Recommendations

- Use the Town Center Initiative as a tool to improve the infrastructure and commercial structures along McDuff Avenue; and

- Streetscape and other infrastructure improvements should be combined with housing improvements outlined in the Housing Opportunity District (HOD) strategy to promote a comprehensive revitalization strategy that would warrant a larger impact upon the community.

- Edison Avenue improvements should preserve the mix of uses, while improving the aesthetic quality of the area.

- Pond improvements on the existing park and tennis courts should include some park amenities, such as a gazebo and walking trail that would connect to the other two ponds that will be constructed to reduce the flooding problem affecting McCoys Creek Boulevard.

Section 7
Zoning

Introduction

Industrial uses surrounding a home

There are a variety of zoning districts within North Riverside, including single-family residential, commercial, and industrial districts. Residential districts are located throughout the study area, while industrial districts are concentrated east of Stockton Street adjacent to Interstates 10 and 95, and commercial districts are concentrated along major roadways in the study area (Map 7).

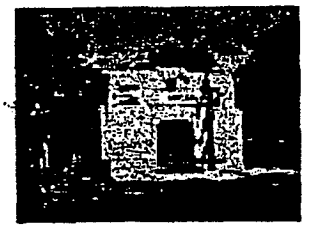
Issues

The key zoning issues in the Study Area are as follows:

- Incompatible adjacent zoning districts and related land uses;
- A lack of transitional zoning districts between incompatible uses; and
- Areas with non-conforming uses.

The most common example of incompatible zoning districts and lacking transitional zoning districts is the proliferation of residential districts adjacent to industrial or intense commercial districts. This is frequently seen in the areas east of Stockton Street where single-family homes are often next door to or directly across the street from businesses with outside storage of heavy equipment or other nuisance uses. A transitional zoning district with intermediate intensity of uses is commonly used to provide a buffer between incompatible uses. Landscaping or opaque fencing is another buffering option where there is not sufficient space for a transitional zoning district.

Prior to the construction of the interstate highway system, the Study Area was dominated by residential uses. Since the highways' construction, light industrial and intense commercial uses have developed along Interstates 10 and 95. In many cases, these uses have developed alongside single-family homes. These areas have since been converted from residential to industrial zoning districts, resulting in many areas of non-conforming uses. The most striking example of this phenomenon is in the south-central section of the



Non-conforming use: Grocery in RMD-A

study area where the W.W. Gay facility has completely surrounded a cluster of single-family homes.

Table 12 **Zoning Districts Present Within the North Riverside Study Area**

Residential	
RLD-G	Single-family homes, foster care homes, family day care meeting performance standards, community residential homes of six or fewer residents meeting performance standards, essential services, churches, golf courses, parks, country clubs, and home occupations meeting performance standards.
RMD-A	Single-family homes, elderly housing, foster homes, family day care meeting performance standards, community residential homes of six or fewer residents meeting performance standards set forth in Part 4, essential services, churches, golf courses, parks, country clubs, and home occupations meeting performance standards set forth in Part 4, churches, golf courses, and parks.
RMD-D	Multiple-family dwellings, elderly housing, family day care, foster homes, community residential homes of six or fewer residents meeting performance standards, essential services, churches, golf courses, parks, country clubs, and home occupations meeting performance standards set forth in Part 4.

Commercial	
CO	Medical & dental offices, professional & business offices, facilities for the production of eyeglasses, hearing aids and other medical devices in conjunction with a service being rendered at the location, and essential services.
CCG-1	Retail outlets of all kinds & service establishments of all kinds, recreational facilities, offices, hotels, & banks. Adult entertainment, bottle clubs, and rescue missions by exception.
CCG-2	Retail outlets of all kinds, including pawnshops. Service establishments of all kinds, recreational facilities, offices, hotels, hospitals, & wholesaling. Adult entertainment, bottle clubs, and rescue missions by exception.
Public Buildings	
PBF-1	All government uses. Essential services and solid waste management facilities by exception.
Industrial	
IBP-2	Medical & dental offices, hospitals, professional & business offices, warehousing, wholesaling, distribution, light manufacturing, research & medical laboratories, radio & television broadcasting, vocational & technical schools, essential services, and off-street parking lots.
IL	Industrial uses, including wholesaling, warehousing and storage, light manufacturing, printing, offices, service establishments, medical clinics, storage yards, and retail sales of heavy machinery.

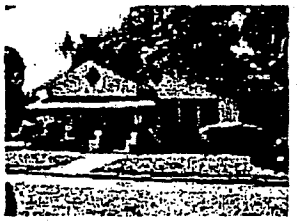
There are numerous land use issues that are directly related to the zoning districts assigned to the Study Area. Additionally, many times the conditions of residential property are related to the amount of industrial property surrounding the area. Incompatible land uses and non-conforming uses have a significant effect on the health of the community.

Most of the rezoning for the Edison Avenue Study Area will be associated with a strategy recommendation.

Recommendations

- The CRA will need to be rezoned to accommodate industrial expansion, particularly in areas where there are residential zoning districts that will need to be rezoned to Industrial Light. Additionally, there is also an area adjacent to the residential area located west of Osceola Street (bounded by Osceola to the west, Lewis Street to the south, the railroad tracks to the east, and Forest Street to the north) that would need to have some type of transitional zoning district. This area should be zoned CCG-2 and used for flex-space warehouses that would be less intensive than traditional industrial uses. It is also recommended that an area be reserved for a natural buffer between the residential and the industrial uses.

- The Town Center Initiative is designed to encourage the revitalization of aging urban corridors and that the corridors become a central location for neighborhood commercial needs. The current zoning along McDuff Avenue is CCG-2, which is the most intensive commercial district category. The uses along the Corridor are representative of the zoning district, with car repair shops and gas stations. These uses do not satisfy the daily shopping of residents. Therefore, a less intensive zoning district category is recommended: CCG-1. The boundaries for this district should be Roosevelt Boulevard to the south and Fitzgerald Street to the north, and all properties abutting the Corridor to the east and the west. The district should encompass some Edison Avenue from McDuff Avenue to Cherokee Street and all properties abutting Edison Avenue from the north and south.



Section 8
Summary of Recommendations

The following is a listing of the recommendations outlined within the Neighborhood Action Plan:

- The City should consider providing incentives such as financial and technical assistance to developers interested in rehabilitation of vacant single-family homes in the area.

- The target approached Housing Opportunity District strategy should be considered for housing rehabilitation in the neighborhood. Targeting revitalization efforts to a specified area will warrant a larger impact on North Riverside because the rehabilitation of the homes would be concentrated and coordinated.

- It is also recommended that infrastructure improvements also be coordinated with the development of the Housing Opportunity District. Much of the North Riverside neighborhood lacks curb and gutter, adequate lighting and landscaping. Coordinating infrastructure improvements with housing redevelopment would greatly improve the quality of life for the residents of the area.

- Use the Town Center initiative as a tool to improve the infrastructure and commercial structures along Mc Duff Avenue.

- Streetscape and other infrastructure improvements should be combined with housing improvements outlined in the Housing Opportunity District (HOD) strategy to promote a comprehensive revitalization strategy that would warrant a larger impact upon the community.

- The City should consider creating an urban industrial park that would include the existing industrial sector, as well as property east of Osceola Street.

- The City should consider creating a Community Redevelopment Area (CRA) for the urban industrial park to fund infrastructure projects and to allow the City to obtain the right of eminent domain for the purpose of assembling property for industrial use.

- The City should use financial incentives, such as those contained within the Enterprise and Empowerment Zone Programs to encourage business owners to hire from within the neighborhood.

- The City should link the proposed housing strategy in Section Four of this Plan with a focus of relocating the existing residents within the proposed urban industrial park should displacement occur.

- The City should consider sponsoring an Area-Wide Environmental Site Assessment (ESA) for the North Riverside Area through the Brownfields Program. An Area-wide assessment within North Riverside would be appropriate to help promote the identification and redevelopment of abandoned and underutilized commercial and industrial sites in the area, thereby increasing opportunities for business growth.

- The CRA will need to be rezoned to accommodate industrial expansion, particularly in the sections where there are residential zoning districts that will need to be rezoned to Industrial Light. Additionally, there is also an area adjacent to the residential area that is located west of Osceola Street (bounded by Osceola to the west, Lewis Street to the south, the railroad tracks to the east, and Forest Street to the north) that would need to have some type of transitional zoning district. It is recommended that this district be CCG-2, and the use be a flex-space warehouse area that would be less intensive than industrial use. It is also recommended that an area be reserved for a natural buffer between the residential and the industrial uses.

- The Town Center program is designed to encourage the revitalization of aging urban corridors and that the corridors become a central location for neighborhood commercial needs. The current zoning along McDuff Avenue is CCG-2, which is the most intensive commercial district category. The uses along the Corridor are representative of the zoning district, with car repair shops and gas

stations. These uses do not satisfy the daily shopping of residents. Therefore, a less intensive zoning district category is recommended: Commercial Neighborhood. The boundaries for this district should be Roosevelt Boulevard to the south and Fitzgerald Street to the north, and all properties abutting the Corridor to the east and the west. The district should encompass some Edison Avenue from McDuff Avenue to Cherokee Street and all properties abutting Edison Avenue from the north and south.

Section 9
Evaluation & Implementation

Implementation:

- Beginning with the Housing Opportuntiy Demonstration Block will be a project that will create a visible impact.
- Creating the Community Redevelopment Area will enable the City to begin land acquisition.

Implementation Schedule

The North Riverside Neighborhood Action Plan is designed to provide action steps and recommendations that would spur projects and revitalization initiatives. This Plan outlines recommendations that could provide tangible and visible improvements to the residents, businesses and other stakeholders within the community. The implementation of these recommendations would ultimately foster positive change within the community by addressing North Riverside's needs and opportunities comprehensively.

It should be noted that the recommendations summarized in Section Eight are interconnected. Some recommendations provide the framework that will be necessary for the implementation of other recommendations. It is strongly recommended that each recommendation be considered equally in the overall revitalization strategy for North Riverside and implementation of the Neighborhood Action Plan.

Implementation Start Up

There are several projects to complete in North Riverside. It is important, however to begin with a project that will create a visible initial impact on the community. The initial project can serve as the catalyst for revitalization of the area. Section four outlines a housing strategy that takes a targeted approach to housing and redevelopment by starting in an initial Housing Opportunity Demonstration Block. Housing improvements would then be phased to encompass the larger target area. Recommended improvements include rehabilitation of both occupied and abandoned structures as well as constructing new homes that are compatible with the homes in the area.

Economic development, particularly business expansion and employment opportunities are critical to attracting new residents and enterprises to North

Riverside. The regulatory changes for the proposed Community Redevelopment Area (CRA) will be a necessary first step in providing the financing and other mechanisms needed for improvements.

The following is a work plan for the first phase of implementation:

Task	Description	Responsible Body
1.0	**Implement Regulatory Framework**	
	Prepare Draft legislation	PDD
	Review by General Council	General Council
1.1	**Adoption of Plan**	Council District Member/ General Council
	Hold zoning workshops with residents/businesses	PDD
	Preparation of ordinance	
	Review by	
1.2	**Adoption of necessary zoning changes**	PDD
1.3	**Begin Creation of North Riverside CRA**	PDD, JEDC
	Meeting with community groups	
	Public notice per statutory requirements	
	Determination of slum and blight report	
	Determination of slum and blight adoption by ordinance	
	Public notice per statutory requirements	
	Creation of a community redevelopment agency or appointed governing body	
	Creation of a community redevelopment plan	
	Public notice per statutory requirements	
	Adoption of the community redevelopment plan	
2.0	**Physical Development**	
2.1	**Residential Development**	PDD
	Identify candidates for housing rehabilitation	
	Identify dilapidated structures	
	Identify lots for acquisition	
	Create a financial model for acquisition/rehab/new construction	
	Identify non profit developers	
2.2	**Infrastructure Improvements**	
	Identification of areas lacking curb, gutter and other infrastructure needs	
	Prioritization of improvements- coordinate with housing improvements and other initiatives	
3.0	**Acquisition of Funding**	
	Identification of funding sources- federal, state, local, private investment	

The initial phases of implementation establish the basis for economic development and residential improvement. The ability to attract new businesses and residents is critical to marketing North Riverside as a

neighborhood of choice. The ability to attract people to the neighborhood will depend on the success of these projects. The City has the opportunity to build on the partnerships established in the neighborhood planning process and make the Neighborhood Action Plan implementation a resident-led initiative.

Evaluation

The North Riverside Neighborhood Action Plan describes redevelopment opportunities that build on the assets of the community and outlines specific strategies to aid in revitalization efforts. The evaluation component provides a means for gauging the successes and accomplishments of the overall revitalization initiative for North Riverside Neighborhood quantitatively.

The following matrix provides indicators and evaluation measures for the major strategies and programs described in the neighborhood action plan.

Table 13 **Primary Performance Indicators and Evaluation Measures**

Program/Strategy	Indicator	Measure	Data Source
Housing Rehabilitation	Rehabilitated Homes	# of applicants with building permits	Housing Services
Reduce dilapidated structures	Acquisition of Vacant and abandoned structures in disrepair	# of demolitions within target area	Neighborhoods
New Construction	Newly Constructed Homes	# of Homes Built & Sold	Housing Services
Increase Homeownership	Home ownership rates	# of Homestead Exemptions	Property Appraiser's Data Base
CRA	Property Values	% increase in property values	Property Appraiser's Database
Urban Industrial Park	New Businesses	# of occupational licenses; # of permits	
Infrastructure	Infrastructure Improvement Projects	# of Road/Lighting/ and Sidewalk Improvement	Public Works

The strategies within action plans are intended to spark overall neighborhood improvement in areas such as neighborhood appearance and crime reduction, which result indirectly from revitalization efforts (Table 14).

Table 14 **Secondary Performance Indicators and Performance Measures**

Category	Indicator	Measure	Data Source
Safety	Crime	Crime Rates/ Resident Perception of Safety	Duval County Sheriffs Office
Neighborhood Appearance	Litter & Trash	# of Cleanups/ Resident Perception of Safety	Non profit Organizations/ Resident Survey

It is recommended that the Neighborhood Action Plan be evaluated after a two-year period to assess its implementation and program accomplishments, followed by subsequent evaluations. Periodic assessment and evaluation of the programs and strategies that develop as a result of the neighborhood action plan will allow the City and neighborhood stakeholders to modify efforts based on the programs accomplishments. The evaluation could potentially aid in securing and or leveraging additional funding to continue improvements.

North Riverside Neighborhood Action Plan
Supporting Comprehensive Plan Objectives and Policies

Housing Element

Objective 1.11 The City will develop and implement a plan of action by which the City will continue to focus on the Northwest Jacksonville Area by addressing infrastructure and other deficiencies, thereby attracting growth and development opportunities, and making it a more attractive place to live and work.

Policy 1.11.1 The Planning and Development Department will continue to synthesize all planning documents resulting from this comprehensive planning process to assure that they are all consistent with the needs of the Northwest Jacksonville Area.

Policy 1.11.2 The City will focus its revitalization efforts in the Northwest Jacksonville Area based upon this comprehensive plan, and other reports documenting the service deficiencies in the Northwest Jacksonville Area. These efforts will address street, drainage, and utilities, a variety of quality affordable housing, social services, job training, employment opportunities, and mass transportation to facilitate access to other educational and employment opportunities in the City.

Future Land Use Element

Policy 1.1.21 To help and ensure a more balanced population distribution and utilization of public resources, the City will focus greater efforts on revitalizing existing communities and developments in the Urban Core, Southwest, North, and Northwest Planning Districts through such measures as the Mayor's Intensive Care Neighborhoods program, allocation of Community Development Block Grants and the use of economic incentives through JEDC.

Policy 1.1.22 The City will encourage new development to locate in the Urban Core, Southwest, North, and Northwest planning districts through such measures as economic incentives, greater marketing assistance, etc.

Policy 1.1.23 The City will encourage the use of such smart growth practices as:

- Interconnectivity of transportation modes and recreation and open space areas;
- A range of densities and types of residential developments;
- Mixed use development which encourages internal capture of trips;
- Use of the urban and suburban area boundaries as urban growth boundaries;
- Revitalization of older areas and the downtown, and
- Purchase of land through the Preservation Project to remove it from development and preserve it as open space, recreation or conservation use.

Objective 2.2 **By 1999, develop a comprehensive urban revitalization strategy for the City's blighted areas, and those areas threatened by blight, which will address maintenance, improvement or replacement of existing structures, permit the transition of run-down or grossly under-utilized commercial properties to alternate uses, and support the re-emergence of diverse urban neighborhoods in proximity to the City's CBD.**

Policy 2.2.1 Prepare through the Planning and Development Department a detailed and up-to-date inventory of the use and condition of all structures, as well as existing development patterns, in identified redevelopment areas and target neighborhoods.

Policy 2.2.4 Maintain existing stable neighborhoods through coordinated rehabilitation and conservation action by the Housing Safety Division and Planning and Development Department. Protect residential areas from encroachment by incompatible land uses through proper zoning, and from through or heavy traffic by use of buffers and other mitigating measures.

Policy 2.2.5 Develop incentive mechanisms to be used by the Neighborhoods and Planning and Development Departments to encourage redevelopment of physically or economically depressed areas. Use extension of public utilities and other capital improvement projects, and joint public-private projects, as catalysts to revitalize these areas.

Policy 2.2.7 Develop and implement through the Planning and Development Department urban design guidelines for redevelopment areas identified in the Housing Element.

Policy 2.2.8 Encourage the redevelopment and revitalization of run-down and/or under-utilized commercial areas through a combination of

regulatory techniques, incentives and land use planning. Adopt redevelopment and revitalization strategies and incentives for private reinvestment in under-utilized residential and/or commercial areas where adequate infrastructure to support redevelopment exists.

Policy 2.2.9 Develop and implement through the Planning and Development Department urban design criteria that will address the interface of incompatible land uses (e.g., commercial and residential) and provide mitigation techniques to guide the redevelopment of uses affected by road widenings.

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